盐田港

YTP

双月刊 2019 第6期 总第154期

内部资料 免费交流

打造海洋产业发展赋能平台 推动深圳全球海洋中心城市建设

CREATE AN ENABLING PLATFORM FOR MARINE INDUSTRY DEVELOPMENT TO GIVE IMPETUS TO SHENZHEN IN DEVELOPING A GLOBAL MARINE CENTRAL CITY

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THE PROSPECT OF SHENZHEN'S PELAGIC FISHERY

盐田港 YTP

2019年第6期（总第154期）

深圳市盐田港集团有限公司主办
Published by Shenzhen Yantian Port Group Co., Ltd

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深圳市盐田港集团有限公司主办
登记证号：（粤B）L0190400004号 2019年第6期（总第154期） 2019年12月出版

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天下 Globe

财经 Finance

中国研发经费投入逼近2万亿 保持两位数增速

8月30日，国家统计局、科学技术部、财政部发布《2018年全国科技经费投入统计公报》，显示中国研究与试验发展（R&D）经费连续保持两位数增速，经费总量稳居世界第二，基础研究投入更是首次突破千亿大关，企业则是全社会R&D经费增长的主要拉动力量。专家表示，经费投入的增加，是中国科技进步和国家竞争力提升的体现，科技创新正在产业结构转型升级、壮大经济新动能方面发挥关键作用。

（来源：人民日报海外版）

工信部发文力推工业大数据发展

9月4日，工信部发布了《工业大数据发展指导意见（征求意见稿）》，提出到2025年，基本建成工业大数据资源体系、融合体系、产业体系和治理体系，并设置了建成国家工业互联网大数据中心、培育3-5个达到国际先进水平的工业大数据解决方案供应商、创建一批推动工业大数据集聚发展的国家新型工业化产业示范基地等具体目标。

（来源：上海证券报）

取消QFII和RQFII额度限制 将有更多长期资本投资中国市场

9月10日，国家外汇管理局宣布取消合格境外机构投资者（QFII）和人民币合格境外机构投资者（RQFII）投资额度限制。此举被认为是中国扩大金融开放的实质性举措，市场预计将会带来更多境外长期资本投资中国资本市场。我国于2002年开始实施QFII，于2011年实施RQFII试点。此次取消合格境外投资者投资额度限制的重大决策，这是众多外资机构翘首以盼的政策，扫除了此前存在的额度和准入方面的一些限制，并将大大提升外资对中国市场的参与度。

（来源：新华网）

《交通强国建设纲要》发布 到2035年基本建成“交通强国”

9月19日傍晚，《交通强国建设纲要》印发，纲要提出，从2021年开始，到本世纪中叶，分两个阶段推进交通强国建设。其中，到2035年，要基本建成交通强国，形成涵盖快速、干线和基础的“三张交通网”，公众出行和全球快货运输都要形成一个“123”交通圈。

（来源：央广网）

中国全球竞争力综合得分稳中有升

世界经济论坛10月9日发布《2019年全球竞争力报告》显示，中国在全球竞争力综合排名中位列第28位，名次与去年持平，但综合得分稳中有升。按地区看，亚太地区为全球最有竞争力的地区，其次为欧洲和北美洲。报告基于全球竞争力指数，按照12个支柱指标，对全球141个经济体的竞争力予以评估。这些支柱指标包括制度、基础设施、信息及通信技术采用、宏观经济稳定、卫生健康、技能、商品市场、劳动力市场、金融系统、市场规模、企业活力和创新能力。

（来源：经济参考报）

前三季度主要金融数据明显好转 中国经济平稳运行可期

10月15日，中国人民银行发布第三季度金融统计数据显示，前三季度，人民币贷款增加13.63万亿元，同比多增4867亿元；社会融资规模增量累计为18.74万亿元，比上年同期多3.28万亿元；9月末，广义货币（M2）余额195.23万亿元，同比增长8.4%。中国人民银行相关负责人表示，总体来看，银行体系流动性合理充裕，货币信贷和社会融资规模适度增长，市场利率运行平稳。主要金融数据均有明显好转，金融对实体经济支持力度继续加大，下一阶段经济平稳运行可期。

（来源：人民网）

经济运行总体平稳 高技术制造业表现亮眼

10月18日上午，中国经济前三季度“成绩单”揭晓。据国家统计局发布，初步核算，前三季度国内生产总值697798亿元，按可比价格计算，同比增长6.2%。分季度看，一季度增长6.4%，二季度增长6.2%，三季度增长6.0%。专家普遍认为，从前三季度数据来看，贸易保护主义“逆风”对世界经济的影响进一步显现，中国经济增速下行压力依然存在，但前三季度国民经济运行总体平稳，结构调整稳步推进，经济长期向好的基本面没有改变。

（来源：央广网）

强化便民保障刚需 多地调整住房公积金政策

今年以来，各地住房公积金政策密集发布。中原地产研究中心统计数据显示，截至10月23日，全国各地住房公积金政策发布超过100次，相比2018年同期增加超过30%。据不完全统计，11月1日深圳、成都、滨州、东营等8个城市将实施调整后住房公积金政策。在公积金提取业务、贷款期限或额度、异地购房提取等方面进行了规范和改进。

（来源：中国证券报）

13个区域入选首批交通强国建设试点 深圳、雄安等在列

在24日举行的交通运输部10月例行新闻发布会上，交通运输部新闻发言人吴春耕表示，已启动包括深圳市、河北雄安新区等第一批13个区域交通强国建设试点工作，力争用1-2年时间取得试点任务的阶段性成果，用3-5年时间取得相对完善的系统性成果，打造一批先行先试样板。

（来源：中国新闻网）

新三板创近四年最大涨幅 创新层股票集体狂欢

监管部门宣布启动深化新三板改革之后，新三板市场迎来了2016年以来单日最大涨幅的一天。10月28日，三板做市指数早盘高开高走，至收盘报825.25点，大涨5.03%，成交也明显放大，全天成交额为2.67亿元。指数及成交额一举创出年内新高。业内分析，这次全面改革，是新三板几年以来最重要的时刻和转折点，并期待具体配套细则尽快落地。

（来源：证券日报）

工信部力推共享制造 2022年形成20家大平台

10月29日，工业和信息化部发布《关于加快培育共享制造新模式新业态 促进制造业高质量发展的指导意见》，提出到2022年，形成20家创新能力强、行业影响大的共享制造示范平台，资源集约化水平进一步提升，制造资源配置不断优化，共享制造模式认可度得到显著提高。到2025年，共享制造发展迈上新台阶，示范引领作用全面显现，共享制造模式广泛应用，生态体系趋于完善，资源数字化水平显著提升，成为制造业高质量发展的重要驱动力量。

（来源：证券日报）

发改委：分两批试点布局50个产教融合城市

日前，经国务院同意，国家发展改革委、教育部等6部门印发《国家产教融合建设试点实施方案》。《实施方案》明确，通过5年左右的努力，试点布局50个左右产教融合型城市，在试点城市及其所在省域内打造一批区域特色鲜明的产教融合型行业，在全国建设培育1万家以上的产教融合型企业，建立产教融合型企业制度和组合式激励政策体系。

（来源：经济参考报）

我国已成为第二大对外投资国

近日，商务部、国家统计局和国家外汇管理局联合发布《2018年度中国对外直接投资统计公报》，正式公布2018年中国对外直接投资统计数据。《公报》显示，2018年中国对外直接投资1430.4亿美元，略低于日本（1431.6亿美元），成为第二大对外投资国。《公报》显示，2018年我国对外直接投资流量和存量稳居全球前三，占比皆创新高。

（来源：经济参考报）

贸易 Trade

《优化营商环境条例》明年起施行 最大限度减少政府对市场资源的直接配置

国务院总理李克强日前签署国务院令，公布《优化营商环境条例》，自2020年1月1日起施行。《条例》重点针对我国营商环境的突出短板和市场主体反映强烈的痛点难点堵点问题，对标国际先进水平，从完善体制机制的层面作出相应规定。

（来源：经济参考报）

苏鲁豫皖海河联运港际联盟正式成立

9月10日，在第六届中国（连云港）丝绸之路国际物流博览会期间，苏鲁豫皖海河联运港际联盟成立。4省将深入落实内河水运发展行动方案，进一步推动京杭运河、连申线、淮河、沙颍河等航道的升级扩容，力争实现区域成网、通江达海的目标。据了解，该联盟将充分发挥连云港深水大港功能和苏鲁豫皖地区便利成熟的内河航道资源，集聚沿线各方优势资源要素，共建共享共用海河联运黄金通道。联盟各成员单位表示，将充分发挥各地区域优势及功能特点，实现资源共享、优势互补，联手打造海河联运全程物流供应链，推行区域重点客户定制化服务。

（来源：中国海洋报）

中越十城联合成立西部陆海新通道冷链经济城市联盟

9月22日，广西防城港联合四川成都、攀枝花、内江、宜宾、广安、达州，以及重庆江津、贵州贵阳以及越南芒街等城共同成立“西部陆海新通道冷链经济城市联盟”，倡议合作共建中越冷链海陆新通道，联盟成立的目的是共同打造联接中国西部和越南时限短、价格优、通关快的新通道；共聚冷链要素资源，培育壮大全链条冷链产业；搭建“冷链经济+”合作平台；共促冷链市场品质升级。

（来源：新华网）

第三届中国（宁波）国际航运物流交易会开幕

10月14日上午，第三届中国（宁波）国际航运物流交易会暨2019“一带一路”国际口岸合作大会在宁波正式启幕。本次会议主题是：“智”引合作新时代，打造口岸新经济。在接下去的2天时间里，将有全球超过18个主要市场国家，全国近50个城市、口岸的参展客商、企业代表及嘉宾约3000人云集宁波，就共同关心的口岸经济话题进行深入交流，共觅合作发展机会。

（来源：中国水运网）

北京首个共有产权养老项目产权证发放

10月17日，在北京首个共有产权养老试点项目——泰和家园，首批139户家庭共有产权证书开始发放。记者了解到，产权证全名为“不动产权证书”，标明了权利人、用途、面积、共有份额等法律要件，为自然资源部监制。根据规定，购房者拥有养老房95%的产权，每间居室至少有一名60周岁以上老人，每月每户只需缴纳3080元的服务费。购房者拥有国家承认的产权证书，可以转让、出租、继承，剩余的5%产权由泰和家园投资建设方乐成老年事业投资有限公司作为养老运营商永久持有，不得买卖。

（来源： 经济日报）

前三季度消费市场运行总体平稳

10月21日，商务部发布了2019年前三季度中国消费市场运行情况。据商务部市场运行司负责人介绍，前三季度国内消费市场运行总体平稳。最新数据显示，今年1—9月，全国实现社会消费品零售总额29.7万亿元，同比增长8.2%。消费对经济增长的基础性作用继续巩固，前三季度最终消费支出对经济增长的贡献率达到60.5%。

（来源：人民网）

电价改革迈出关键一步 50%燃煤发电有望入市

国家发展改革委10月24日公布《关于深化燃煤发电上网电价形成机制改革的指导意见》，明确从2020年1月1日起，取消煤电价格联动机制，将现行燃煤发电标杆上网电价机制，改为“基准价+上下浮动”的市场化价格机制。业内人士认为，这意味着我国实施了15年之久的煤电价格联动机制将退出历史舞台，电价改革在坚持市场化方向上迈出新的关键一步，为近50%的燃煤发电上网电量进入市场创造了条件，将大幅提升电力市场化交易程度。

（来源：经济参考报）

新能源汽车销量三连降 破局须强化供给侧改革

10月25日，由中国电动汽车百人会主办的2019全球未来出行大会在浙江德清开幕，聚焦“迎接出行革命”主题，多位专家学者畅谈汽车产业的绿色化、电动化、智能化、网联化、共享化发展，北京新能源汽车股份有限公司党委副书记连庆锋却讲起了新能源汽车的发展困局。根据中国汽车工业协会的最新数据显示，9月我国新能源汽车产销量比上年同期分别下降29.9%和34.2%，销量出现连续3个月下滑。

（来源：科技日报）

国产喷气支线客机ARJ21首开国际航线

10月26日下午，我国国产喷气支线客机ARJ21飞机从哈尔滨太平国际机场起飞，历经1小时03分的飞行，平稳降落在俄罗斯符拉迪沃斯托克国际机场。这标志着ARJ21飞机首条国际航线成功开通，我国国产喷气支线客机商业运营实现新跨越。

（来源：人民日报）

5G商用开网 三大运营商竞相“揽客”

三大运营商将在11月1日正式上线5G商用套餐。业内人士表示，电信运营商推出5G商用套餐意味着5G由此进入正式商用阶段，表明运营商第一步的5G网络建设基本到位。记者在中国移动的预约界面上看到，即日起至5G套餐正式上市前，预约5G套餐可享受相关折扣优惠。中国移动表示，预约客户自领取5G套餐折扣优惠之日起三个月内如订购中国移动全网统一套餐，则订购后可连续6个月享受套餐费折扣。前6个月，网龄5年及以上7折，5年以下8折。而中国电信和中国联通将7折门槛降到了3年。

（来源：新华社）

前三季度外贸运行稳中提质 民营企业活力增强

据海关统计，今年前三季度我国外贸进出口总值22.91万亿元，比去年同期增长2.8%。其中，出口12.48万亿元，增长5.2%；进口10.43万亿元，下降0.1%；贸易顺差2.05万亿元，扩大44.2%。9月当月，我国进出口总值2.78万亿元，下降3.3%。据世贸组织最新公布数据，今年1至7月，我国仍然保持全球货物贸易第一大国地位，占全球的份额比去年同期提升0.1个百分点。

（来源：人民网）

外贸外资迎“便利化12条”

惠及支付机构95%以上的跨境电商企业客户、节约企业单证准备和审核时间50%以上、便利非投资性外商投资企业资本金使用……近日，《国家外汇管理局关于进一步促进跨境贸易投资便利化的通知》对外发布，12条措施带来的新变化引发广泛关注。专家指出，此次出台的促进跨境贸易投资便利化12条措施，将进一步便利市场主体办理外汇业务，为稳外贸、稳外资提供有力支撑。

（来源：人民日报）

港航 Port&Shipping

中国港口高质量发展评价指标和国际声誉排名发布

中国经济信息社与交通运输部水运科学研究院8月31日在北京联合发布中国港口高质量发展评价指标体系，以及该评价指标体系首份研究成果《中国港口高质量发展报告（海港篇）2019》。根据测算，2019年22个沿海主要港口综合得分最高水平为9.19分，平均水平为7.26分，最低水平为5.83分，上海港、宁波舟山港、深圳港、青岛港在沿海港口中处于领先水平。

（来源：新华社）

港口整合“裂变效应”的路径选择

9月3日，天津港集装箱码头有限公司挂牌成立新公司，成为津冀港口体量最大的现代化集装箱码头企业。该公司是吸收合并了天津东方海陆集装箱码头有限公司、天津五洲国际集装箱码头有限公司成立的，天津港股份、中远码头、中海码头及招商港口分别持有76.68%、10.01%、6.00%及7.31%股权。随着现代物流业的发展和运输方式的变革，港口企业按照运输链或供应链提升服务内涵的要求，展开与其他港口间的经营性资源整合是大势所趋。

（来源：中国水运报）

中新签署船舶电子证书谅解备忘录提升通关效率

9月5日，我国与新加坡签署船舶电子证书谅解备忘录，以促进两国登记船舶使用电子证书，加强双方在船舶电子证书领域合作。备忘录全称为《中国与新加坡关于推广、接受和使用电子证书的谅解备忘录》，根据这一备忘录，中新两国海事部门同意在电子证书的签发、使用和接受方面进行合作，共同探讨如何实现通过两国“电子证书”数据交换，促进在船舶通关作业和港口国监督检查过程中应用电子证书。

（来源：交通运输部）

全球首艘最大型LNG动力集装箱船在上海问世

9月25日，由中国船舶工业集团有限公司所属沪东中华造船（集团）有限公司为法国达飞航运集团建造的全球首艘23000TEU液化天然气动力（LNG）集装箱船在中船长兴造船基地下水。这是迄今为止不仅是中国，也是世界上建造的最大型集装箱船，一举打破了韩国等国船企长期的技术垄断，标志着我国高端海洋装备制造实现从“跟跑”到“领跑”的重大飞跃，也是实施海洋强国战略的重大战略成果。

（来源：中国水运网）

长江干线数字航道全面联通运行

经过3个月的试运行测试，长江数字航道9月30日顺利实现全面联通运行目标。通过数字航道建设，长江航道局整合了长江全线航标、水情、航道尺度等动态信息资源，将大数据、互联网、人工智能等新技术与长江航道管理服务深度融合，推动管理服务方式由传统人工模式向数字化模式转型。

（来源：新华社）

浙江加快“四港”联动助推物流降本增效 “四港”联盟成立

10月12日，浙江成立省海港陆港空港信息港运营商联盟，以进一步发挥该省海、陆、空运输和信息资源优势，加快推进运输结构调整，助推物流业降本增效。今年5月，浙江省印发了《加快推进海港陆港空港信息港“四港”联动发展建设方案》，明确深入实施长三角一体化发展国家战略，以海港为龙头、陆港为基础、空港为特色、信息港为纽带，着力推进设施联通、标准联接、信息联网、企业联盟、多式联运，构筑开放互通、一体高效、绿色智能的“四港”联动发展格局。

（来源：新华网）

西部陆海新通道“朋友圈”扩展到14个省区市

10月15日，记者获悉，日前重庆、广西、贵州、甘肃、青海、新疆、陕西、四川、云南、宁夏、内蒙古、西藏等西部地区12省区市和海南省、广东省湛江市，在重庆签署框架协议，合作共建西部陆海新通道，至此，西部陆海新通道“朋友圈”已经扩展到14个省区市。据悉，西部陆海新通道是由西部省份与新加坡等东南亚国家合作打造的陆海贸易新通道。它以重庆为运营中心，以广西、贵州、甘肃、青海、新疆等西部省份为关键节点，利用铁路、海运、公路等运输方式，向南经广西北部湾等沿海沿边口岸通达世界各地，比经东部地区出海时间大幅缩短。

（来源：中国水运网）

我国首艘自主建造大型邮轮开工建造

10月18日，我国自主建造的首艘大型邮轮，在上海开工建造。这艘大型邮轮由中船集团负责设计和建造，它的开工标志着我国大型邮轮进入实质性建造阶段。此次开工建造的大型邮轮，总吨位约13.5万，总长323.6米，宽37.2米，有2125间客房，最多可以容纳5246名乘客。整船由2500万个零部件组成，计划在2023年下半年交付。

（来源：央视网）

航运市场企稳 前三季度全国船舶拍卖总艘数减少

10月21日，浙江船舶交易市场发布《2019年前三季度全国船舶拍卖市场报告》称，前三季度，相比干散货类船舶与液货类船舶，“三无”及“非法改装”船舶拍卖艘次占比却大幅上升。报告表明，前三季度，全国船舶拍卖总计495艘次，与去年同期同比减少44艘次、下降8.2%。其中，全国拍卖干散货类船舶220艘次，同比减少42艘次、下降16%；全国拍卖液货类船舶24艘次，同比减少12艘次、下降33.3%。

（来源：中国水运网）

加快推进铁路专用线建设 打通铁水联运“最后一公里”

10月21日，国家发改委召开新闻发布会，新闻发言人袁达在回应媒体有关铁路专用线建设的提问时回应称，国家发改委梳理提出了2019—2020年拟推动实施的一批铁路专用线项目，总投资约1200亿元，项目建设资金以企业投资为主。据悉，为进一步提清港口、企业和物流园区对铁路专用线建设需求，国家发展改革委会同有关方面进行了全国性的调查，并根据项目运量可观、效益较好、前期工作推进较快的原则，梳理提出今明两年拟推动实施的一批铁路专用线项目。

（来源：中国水运网）

“惠盐组合港”正式开通 可统筹利用盐田港和惠州港码头资源

10月22日，深圳与惠州共同推进的“惠盐组合港”项目在盐田港举行开通仪式。惠州港与盐田港两个港口正式形成组合港，据略测算，每年将有500万吨货物用“惠盐组合”方式进出境，为企业降低的成本总和在1000万元以上。

（来源：深圳特区报）

“南北船”正式合并 央企重组多路并进

时隔二十年，“南北船”再次合体。国资委网站10月25日消息，经报国务院批准，中国船舶工业集团与中国船舶重工集团实施联合重组。推进重组整合，是今年国企改革的重头戏之一。后续大戏有望接连上演，酝酿已久的国家油气管网公司挂牌在即。按照国务院国资委的规划，2019年将深入推进整合融合，不断优化国有资本布局结构，积极稳妥推进装备制造、船舶、化工等领域企业战略性重组，组建国家石油天然气管网公司，实现管输和销售分开，持续推动电力、有色金属、钢铁、海工装备、环保、免税品等领域专业化整合。

（来源：经济参考报）

商务部：支持青岛港对接上合组织国家重要港口以及日韩港口

商务部10月28日发布的《中国—上海合作组织地方经贸合作示范区建设总体方案》提出，开展国际物流合作。支持青岛港对接上合组织国家的重要港口以及日本横滨港、福冈港和韩国釜山港、仁川港等港口，开展面向上合组织内陆国家的海铁联运服务合作。支持企业在上合组织国家主要城市建设国际物流节点，拓展国际物流业务。

（来源：中港网）

内河过闸运输船舶标准船型主尺度国家标准出台

近日，交通运输部牵头起草、国家市场监督管理总局和中国国家标准化管理委员会组织审定的《内河过闸运输船舶标准船型主尺度系列》国家标准正式印发，对长江水系、京杭运河和淮河水系、西江航运干线、珠江水系“三线”、黑龙江—松花江内河过闸运输船舶的总长、总宽尺度进行了强制性规定。

（来源：中国物流网）

十三部门合力提升中国制造业设计能力

10月29日，十三部门印发《制造业设计能力提升专项行动计划（2019-2022年）》。计划指出，制造业设计能力是制造业创新能力的重要组成部分，提升制造业设计能力，能够为产品植入更高品质、更加绿色、更可持续的设计理念；能够综合应用新材料、新技术、新工艺、新模式，促进科技成果转化应用；能够推动集成创新和原始创新，助力解决制造业短板领域设计问题。

（来源：央视网）

AMMONIA AND HYDROGEN ARE THE MOST PROMISING ZERO-EMISSION ALTERNATIVE FUELS FOR THE SHIPPING INDUSTRY

氨和氢最有希望成为航运业零排放替代燃料

文 / 国际船舶网
From the eworldship.com

为了降低航运业对环境的污染，满足日益严格的环保法规，航运公司正在尝试运用更加低碳的替代燃料。氨气和氢气可能是最有希望实现脱碳航运目标的燃料。在国际海事组织（IMO）带领下，航运业正在考虑几种取代重油（HFO）的选项。

目前，包括油船在内，全球有超过6万艘货船使用重油作为燃料。比利时非政府组织欧洲运输环境联合会（Transport and Environment）成员Faig Abbasov表示，海运具有高污染力，但却是尚未被法规管制的最后一种行业。法国船东组织（Armateurs de France）的数据显示，海运占全球二氧化碳总排放量的2.3%，比国际民航组织（ICAO）公布的空运二氧化碳排放占比2%还要高。

根据IMO设定的目标，到2050年，航运业温室气体年排放量将比2008年减少50%以上。IMO秘书长林基泽（Kitack Lim）认为，IMO的核心只有通过技术创新的研发应用和引进替代燃料才能实现。这意味应尽快运用低碳排放或零碳排放燃料。IMO的目标需要每艘船减少85%的二氧化碳排放。运营和技术措施可以帮助实现这样的目标，包括港口时间优化和可以在现有船舶上使用的技术，例如可以改善运营能源效率的空气润滑和风力推进等。

一些业内人士认为，氨气和氢气可能是未来脱碳航运业中最有希望的燃料。UCL Energy Institute的Tristan Smith博士表示：“从长远来看，未来的燃料将是某种氢基燃料。”DNV GL首席顾问Tore Longva也认为，到2050年，氢燃料和氨燃料将取代化石燃料，用于船舶发动机。马来西亚承诺将致力于开发氢气作为海洋燃料，并已经在开发一些基础设施和项目。零排放船舶技术协会的Madadh Maclaine介绍称，氢气已经在许多小型船舶中成功部署，并且有扩大规模的潜力。

不过，业内人士也指出，需要制定扶持性的政策，并进行合作和研发，以决定航运业在脱碳方面的发展方向。林基泽称，开发和提供可行的替代燃料不能仅靠航运业来解决，还需要更广泛的海事行业支持，如石油业、船舶租赁业和港口。

To reduce the environmental pollution of the shipping industry and meet increasingly stringent environmental regulations, shipping companies are trying to use lower-carbon alternative fuels, and ammonia and hydrogen may be the most promising fuels to achieve the goal of zero-carbon shipping. Under the guide of the International Maritime Organization (IMO), the shipping industry is considering several options to replace the Heavy Fuel Oil (HFO).

At present, over 60,000 cargo ships including oil tankers use HFO as the fuel. Faig Abbasov, a member of the European Transport and Environment Federation, which is a Belgian non-governmental organization, said that sea transportation is highly polluting, but it is the last industry that has not yet been regulated. Sea transportation accounts for 2.3% of global carbon dioxide emissions according to the statistics from Armateurs de France, higher than 2% of air transportation according to the International Civil Aviation Organization (ICAO).

IMO has set a target that the annual greenhouse gas emissions of the shipping industry will be reduced by over 50% in 2050 than in 2008. Kitack Lim, secretary general of IMO, believes that IMO' s ambition can only be achieved through the development and application of technological innovation and the introduction of alternative fuels, which means that low-carbon or zero-carbon fuels should be put into use as soon as possible. To realize the target of IMO, each ship needs to reduce its carbon dioxide emissions by 85%. Operational and technical measures including time optimization of the port and technologies that can be used on the existing ships can help to achieve this target, such as the air lubrication and wind propulsion which can improve the energy efficiency of the operation.

Some industry insiders believe that ammonia and hydrogen may be the most promising fuels for the zero-carbon shipping industry in the future. Dr. Tristan Smith from the UCL Energy Institute says: "In the long run, the fuel in the future will be a kind of hydrogen-based fuel." Tore Longva, chief adviser of DNV GL, also believes that hydrogen and ammonia fuels will replace fossil fuels in marine engines by 2050. Malaysia is committed to the development of hydrogen as a marine fuel, and is already developing a number of infrastructure and projects. Madadh Maclaine from the Zero Emission Shipping Technology Association says that hydrogen has been used in many small ships and the scale is likely to be further expanded.

However, insiders also point out that it is necessary to make supportive policies, cooperate and research so as to determine the direction of zero-carbon development in the shipping industry. Kitack Lim says that the development and provision of viable alternative fuels cannot be done by the shipping industry alone. The support from the maritime industry in a broader sense such as the oil industry, ship leasing industry and ports is also necessary.

IMPLANTING A "DIGITAL NERVE" INTO MULTIMODAL TRANSPORT

给多式联运植入“数字神经”

文 / 视闻
By Shi Yu

多式联运的概念近年来一直持续进步，已经从一种高效的运输组织方式向综合交通运输体系构建的方向转变。多式联运的核心在于运用多种运输工具、资源整合，设计合理运输方案，帮助客户降本增效，因此它需要形成“一个主体，一份合同，一次托运，一次计费，一份单证，一份保险”的六合一、一票到底的成熟运输架构，而不是几种运输方式的简单相加。作为一项复杂的现代物流系统工程，多式联运不仅需要相关政策的扶持引导，离不开科学合理的规划，更要求其自身在服务模式和运营模式上的不断创新，以破除前行路上的机制掣肘、制度性掣肘、信息化掣肘。

多式联运要想达到一站式服务、便利化运输等目标，就需要打通几种运输方式的壁垒，实现无缝接驳。多式联运对于智慧和智能产品的需求超乎以往。现阶段我国的多式联运缺乏物流网络信息平台的统一调配，存在信息不对称、空跑率高、运输方式间衔接不畅等问题。如何破题？浙江省的“四港”联动给出了新思路：用信息共享构建多式联运的中枢神经。

“四港”联动中，海陆空港是“硬”件，信息港是“软”件。信息港的加入，相当于给海陆空三港植入了一条共享的“数字神经”，以数据驱动供应链，就可以充分发挥几种运输方式的整合能力：“软”“硬”结合，就能打通物流全链条，实现多种运输方式的无缝衔接，货物运输组织的有效中转，从而深入挖掘出多式联运成本和效率潜力。这也是让多种交通方式从综合并行迈向有机融合的应有之道。

The concept of multimodal transport has kept improving in recent years, changing from an efficient mode of transport organization to a comprehensive transport system. The core of multimodal transport is to integrate various means of transport and resources, design a reasonable transport scheme, and help customers reduce costs and increase efficiency. Therefore, it needs to form a mature transport structure of "one consignor, one contract, one consignment, one billing, one document and one insurance", rather than a simple addition of several modes of transport. As a complex modern logistics system project, multimodal transport not only needs the support and guidance of relevant policies, but also needs scientific and reasonable planning, as well as its own continuous innovation in service mode and operation mode to break the mechanism constraints, institutional constraints and information constraints on the way ahead.

In order to achieve the goal of one-stop service and convenient transportation in multimodal transport, it is necessary to break through the barrier of using several modes of transport and realize seamless connection. The demand for smart and intelligent products in multimodal transport is higher than ever before. At present, China's multimodal transport lacks a unified deployment of logistics network information platform, and there are problems such as information asymmetry, high empty running rate and poor connection between modes of transport. How to solve the problem? The "Four-port" Linkage in Zhejiang Province gives a new idea: build a central nerve of multimodal transport with information sharing.

In the "Four-port" Linkage, the seaport, land port and airport are the "hard" pieces, while the information port is the "soft" piece. The joining of the information port is like implanting a shared "digital nerve" into the seaport, land port and airport, and drives the supply chain with data, which fully displays the integration ability of several modes of transport; the combination of "soft" and "hard" can open up the entire chain of logistics, and realize the seamless connection of several modes of transport and the effective transfer of cargo transport organizations, thus further tapping the cost and efficiency potential of multimodal transport. It is also the proper way for several modes of transport to move from comprehensively going side by side to organic integration.

EVOLUTION ROADMAP OF INDUSTRY ALLIANCES

行业联盟演进路线图

文 / 李振福
By Li Zhenfu

目前，世界经济和航运市场还处于后金融危机时代的影响之中，并且或将继续深入。面对这样的形势，航运联盟的动作越来越大，影响也越来越大，同处于世界经济贸易前端的港口业，也进入联盟节奏，与航运联盟的合作与竞争已在所难免，同时，随着航运巨头们纷纷扩张供应链环节，大物流联盟的发展趋势已日趋明朗。在这种背景下，无论对于行业联盟，还是个体企业，都会面对联盟的冲击，如何把握时代发展脉搏，寻求各自的利益最大化，成为业界普遍关注点问题。

航运联盟：动作越来越大，影响也越来越大

为了应对这种不利局面，“合作共赢、抱团取暖”成为各大班轮公司的必然选择。通过联盟合作，实现资源整合与共享，以此调整航线网络布局，优化船舶运力配置，减少船舶运营数量，舱位互换互租，为客户提供更多的航线选择，从而降低运营成本，减少投资风险，实现“1+1>2”，增强获利能力，提升总体效益。当前，全球顶级班轮公司都已成为联盟成员，2M联盟、海洋联盟、THE联盟“三足鼎立”的格局已基本稳定。

航运联盟能够在减少成本、增强竞争力等方面产生较大效应。在减少成本方面，可通过舱位互租，可以使用较大吨位的船舶，提高边际成本利用率；也可以进行资本的联合，购买更大的集装箱船，降低船舶的单位购买成本，进而实现规模经济效应。另外，班轮运输是资本密集型产业，资源共享的好处不言而喻，一方面通过联盟，承运人可以减少船舶的数量，减低由于购置船舶带来的资本风险；另一方面与其他承运人签订码头堆场共用协议，有效回收部分成本，避免在航运淡季资源闲置的损失。在增强竞争力方面，能够通过增加开船频率、扩大服务范围、减少行业壁垒、减少运价波动等获得收益。总之，航运联盟的形成是基于航运市场运力生产要素运动的结果，表面上是班轮公司的业务合作，事实上的资源要素的重新分配和配置，本质上是经济利益的博弈和竞合。其动力是基于航运市场的生产运力等要素资源的重新整合，它会对航运市场包括港口产生较大的影响。航运市场运价由海上运输供给和需求共同决定，当市场的运力供给大于需求，市场陷入低谷时，航运公司亏本运营。航运联盟的形成，有助于实现船舶、港口、信息等资源的优化配置，达到降低成本、拓展物流服务范围、提高服务效率的目的。单个航运公司的力量往往很弱。在航运市场持续低迷的环境下极易走入消亡，而缔结联盟关系能提高联盟成员的竞争力和抗风险能力，从而使航运公司得以在危机中生存下来，有利于航运市场的稳定。

但是，联盟的形成并不能带来市场的复苏。在世界经济仍将保持低速增长的趋势下，新造船的陆续交付将使得本已过剩的航运供给持续增长，若过剩的运力不及时拆解，航运市场低迷的状态仍将持续。航运联盟的形成有可能会带来垄断，需要有关机构的监督和管控。

港口：正在受到航运联盟的影响

航运联盟的单边行动会对港口的生命力产生影响。在一般情况下，航运联盟显然是反对竞争的，但由于大多数航线是由很多联盟集团经营的，因此这些联盟并不能触犯已被受的国际竞争标准。航运联盟对港口的影响主要体现在三个方面：港口之间竞争将更加激烈、港口将失去优势地位以及港口的未来发展将受到制约。

其一，港口的生存发展本来就需要依靠班轮公司的支撑，航运联盟形成后，单个港口无法应对联盟起来的航运公司，原本竞争就很激烈的各个港口之间的竞争将加剧。

其二，以往各大枢纽港凭借地域和自然垄断优势在与班轮公司的谈判中一般处于优势地位，具有较强的话语权，但是航运联盟的形成，使得港口与船公司之间的地位发生转变，港口从强势变为弱势，班轮公司从弱势变为强势，使得港口在班轮公司的商务谈判中面对的是联盟整体，而不再是单个班轮公司，港口失去了谈判的话语权，这将使班轮公司在与码头进行合同谈判时处于非常强势的地位。

其三，集装箱港口的发展犹如虹吸效应，一个港口强大了，就会制约相邻其它港口的发展。一个大班轮公司就能为一个港口带来上百万甚至几百万的箱量，航运三大联盟的形成，致使联盟船舶是否挂靠将直接关系到一个港口的生死存亡。

At present, the world economy and shipping market are still under the influence of the post-financial crisis era, which may continue to be deepened in the future. Confronted with such a situation, shipping alliances are making bigger moves, and exerting greater influence. Port industry, which is also at the forefront of world economy and trade, has also gotten into the rhythm of the alliances. Cooperation and competition with shipping alliances have become inevitable. At the same time, as shipping giants expand their supply chains one after another, an increasingly clear trend has been seen in the development of large logistics alliances. In this context, both the industry alliances and the individual enterprises will face the impact of the alliances. How to grasp the pulse of the times and maximize personal interests have become a common concern in the industry.

Shipping Alliances: Making bigger moves, and exerting greater influence

In order to address this unfavorable situation, "cooperation and win-win, as well as huddling together for warmth" has become an inevitable choice for major liner companies. Through alliance cooperation, resource integration and sharing can be realized, which will help to adjust the layout of route grids, optimize allocation of vessel capacity, reduce the number of operated vessels as well as shipping space exchange and mutual lease, and provide customers with more route options, thereby reducing operating costs and investment risks, achieving "1+1>2", enhancing profitability and improving overall efficiency. At present, the world's top liner companies have become members of the alliances. A structure that 2M Alliance, OCEAN Alliance, and THE Alliance standing like the three legs of a tripod has been basically formed.

Shipping alliances can exert great influence on reducing costs and enhancing competitiveness. In terms of reducing costs, it can improve the utilization rate of margin costs by shipping space mutual lease and using vessels of large tonnage; it can also realize scale economies effect by combining capital, purchasing larger container vessels and reducing the unit purchase cost of a vessel. In addition, liner shipping is a capital-intensive industry, with self-evident benefits in resource sharing. On the one hand, through alliances, carriers can reduce vessel numbers and the capital risks caused by the vessel purchases; on the other hand, carriers can sign a terminal yard sharing agreement with other carriers to effectively recovers part of the costs and avoid the loss caused by idle resources during the slack season of shipping. In terms of enhancing competitiveness, it can gain profits by increasing sailing frequency, expanding service coverage, reducing industry barriers, and decreasing freight rate fluctuations. In short, the formation of the shipping alliances is the result of the movement of production factors based on the shipping market capacity. Ostensibly, it is a business cooperation of liner companies, but in fact, it is a redistribution and allocation of resource elements, and in nature, it is a game and co-opetition of economic interests. Its driving force is the re-integration of production capacity and other elements and resources based on the shipping market, which will impose a great impact on the shipping market, including ports. The freight rate of shipping market is determined by the supply and demand of maritime transportation. When the market's capacity supply exceeds demand and the market is in a low ebb, the shipping companies will be running at a loss. The formation of the shipping alliances will be conducive to optimizing the allocation of resources such as vessels, ports and information, and achieving the purpose of reducing costs, expanding the scope of logistics services and improving service efficiency. The strength of a single shipping company is often weak, which may cause it to easily fall into demise in the environment of a continuously sluggish shipping market. The establishment of alliance relationship can improve the competitiveness and anti-risk ability of the members of the alliances, enabling the shipping companies to survive in the crisis and stabilizing the shipping market.

However, the formation of alliances will not lead to the recovery of the market. Under the trend that the world economy will maintain a low growth rate, the successive delivery of new vessels will continue to increase the already surplus shipping supply. If the surplus capacity fails to be dismantled in time, the downturn in the shipping market will continue. The formation of shipping alliances may cause monopoly, which requires the supervision and control of relevant institutions.

Ports: Being affected by shipping alliances

The unilateral actions of the shipping alliances will affect the vitality of ports. In normal circumstances, shipping alliances are obviously against competition, but since most routes are operated by many alliance groups, these alliances cannot violate the accepted international competition standards. The influence of shipping alliances on ports is mainly manifested in three aspects: intensified competition between ports, loss of dominant position of ports and restricted future development of ports.

First, ports cannot survive and develop without the support of liner companies. After the formation of shipping alliances, a single port can no longer deal with the allied shipping companies, and the already fierce competition among ports will be intensified.

Second, in the past, by virtue of geographical and natural monopoly advantages, major hub ports were generally in a dominant position in negotiations with liner companies, and had a greater say. However, the formation of shipping alliances has changed the status between ports and shipping companies. Ports have changed from the stronger side to the weaker side, while liner company have changed from the weaker side to the stronger side, forcing the ports to face the entire alliances instead of a single liner company in business negotiation with liner companies. Ports have lost their right to speak in the negotiations, putting liner companies in a very strong position when negotiating contracts with terminals.

Third, the development of container ports is like a siphon effect. If a port is strong, it will restrict the development of other adjacent ports. A large liner company can bring a million or even millions of containers to a port. The formation of the three major shipping alliances has made affiliation of alliance vessels a factor directly determining the life and death of a port.

BIG DATA USHERS IN INNOVATION AND DEVELOPMENT OF SHIPPING INDUSTRY

大数据引领航运业创新发展

文/徐祖远
By Xu Zuyuan

当前，大数据的发展已上升为国家重要战略。党的十九大报告提出“推动互联网、大数据、人工智能和实体经济深度融合”。2017年12月，习近平总书记强调“要推动实施国家大数据战略，加快完善数字基础设施，推进数据资源整合和开放共享，保障数据安全，加快建设数字中国，更好服务我国经济社会发展和人民生活改善”。大数据作为一种发展新动能，已经应用到各行各业，航运大数据也在这样的背景下迅速发展。

大数据带来产业变革新机遇

大数据时代是伴随着现代信息技术的发展而来的，带来的是新一轮科技革命和产业变革的机遇。其本质是从海量数据中发现隐含的规律并对事物发展的可能性做出预测。通过技术处理产生新技术和新动能。近年来，信息量爆发式的增长，一方面数据采集由互联网延伸到物联网，通过智能化设备感知和联网能力，产生了海量的数据；另一方面，电子商务平台不断发展，商业模式由原来线下转为线上进行，业务的流转过程中也产生了大量的数据。这些原始的数据得以采集、汇聚、融合，为接下来的数据分析、挖掘提供了支撑。

除了数据采集方式的改变以外，前沿分析技术也是大数据发展重要的形成因素。如：人工智能和模式识别技术的发展，使得计算机处理复杂数据的能力大大加强，深度学习技术使得计算机的智能水平逼近人类，某些方面可以替代人来进行数据分析和决策。此外社会经济和政治领域的发展要求各行业的服务能力水平提升到“超高频”“变频”时代，政务和业务需求的响应处理时效性、灵活性、柔性要求大大提升，这些都进一步促进大数据时代的到来。

最近几年，大数据应用落地提速，未来的大数据应用是由业务需求出发，从多个维度发掘数据价值，推动港航业加快转型，创造大数据红利，实现高质量发展。一是在大数据应用过程中，更加注重知识发现以及规律、规则的发掘，最大程度挖掘数据的潜在价值；二是在挖掘历史规律的同时，注重挖掘数据的实时性应用，通过低延迟的数据处理方式，发掘更多实时数据应用场景；三是探索数据对于预测和预警未来的应用，开拓数据支撑未来商业决策和发展方向方面的应用。

数字化推动航运高质量发展

大数据在交通领域的应用正在全面推进。今年7月，交通运输部印发的《数字交通发展规划纲要》中明确指出，数字交通是数字经济发展的重要领域，是以数据为关键要素和核心驱动，同时在指导思想中提到要抓住新一轮科技革命和产业变革的机遇，以“数据链”为主线，构建数字化的采集体系、网络化的传输体系和智能化的应用体系，加快交通运输信息化向数字化、网络化、智能化发展，为交通强国建设提供支撑。

航运业作为一个古老的传统行业，大数据技术的应用正不断影响着行业的转型升级，促进航运服务高质量发展。通过将大量原始的、零散的、动态的数据整合后，运用大数据分析方法，不仅可以优化航运服务质量、提升业务效率，还可以发掘新产品、创新服务模式，实现业务运作体系的跨越式发展。

推动航运高质量发展，数据是关键。大量的基础数据是大数据的根基，数据的完整性、准确性、真实性是大数据的核心价值，犹如把大厦建在坚实的岩石上。完善的基础数据，是实现航运大数据的首要保障；高质量的经营数据，是数字化转型的核心；数据的互联互通，是提升航运业整体协同效率的基础；物联网采集数据，是智能航运发展的前提。只有通过数据资源的积累、梳理，结合人工智能、深度学习等分析技术，充分挖掘数据价值，才能突破发展瓶颈，实现

Big data brings new opportunities for industrial transformation

The era of big data has come with the development of modern information technology, bringing about a new round of scientific and technological revolution and opportunities for industrial transformation. Its essence is to discover the hidden laws from the massive data and predict how things will probably develop, and to generate new technologies and new driving force through technical processing. In recent years, information has undergone explosive growth. On the one hand, data collection has extended from Internet to IoT, and massive amounts of data have been generated through intelligent device perception and networking capabilities; on the other hand, with the continuous development of e-commerce platform, the implementation of business model has been shifted from offline to online, and large amounts of data have been generated in the process of business flow. These raw data are collected, aggregated and integrated, providing support to the data analysis and mining afterwards.

In addition to changes in methods of data collection, cutting-edge analytic techniques are also an important factor in the development of big data. For example, with the development of AI and pattern recognition technology, the ability of computers to process complex data has been greatly strengthened. Deep learning technology has allowed computers to have an intelligence level close to humans, and to carry out data analysis and decision making on behalf of humans in some aspects. In addition, the development of social economy and politics has demanded that the service of all industries be upgraded to the era of "Ultra High Frequency" and "Frequency Conversion", and the timeliness, flexibility and resilience of response to government affairs and business demands be greatly enhanced, all of which have further promoted the advent of the era of big data.

In recent years, application of big data has been speeding up. The future application of big data will be based on business demands, and it will tap data values from multiple dimensions, accelerate the transformation of port and shipping industry, create big data dividends, and achieve high-quality development. First, in the application of big data, more attention will been paid to knowledge discovery and discovery of rules and regulations, exploiting the potential value of data to the greatest extent; second, while exploring the historical laws, attention will be paid to explore the real-time application of data, and more real-time data application scenarios will be explored through low latency data processing; third, explore data application for forecasting and early warning, as well as data application in supporting future business decision-making and development directions.

Digitization promotes high quality shipping development

Application of big data has been fully advanced in the field of transportation. Outline of Digital Transportation Development Plan issued by the Ministry of Transport in July this year has clearly pointed out that digital transportation is an important area in the development of digital economy, with data as the key element and core drive. At the same time, in the guiding ideology, it is mentioned that we must seize the opportunity of the new round of scientific and technological revolution and industrial transformation, build a digital collection system, a networked transmission system and an intelligent application system with "data chain" as the main line, and accelerate the development of transportation from informationization to digitization, networking and intellectualization, so as to provide support for the construction of a traffic power.

To promote the high-quality development of shipping industry, data is the key. Large amounts of basic data are the foundation of big data. The integrity, accuracy and authenticity of data are the core values of big data, just like building an edifice on a solid rock. Perfect basic data is the premise and guarantee for realizing shipping big data; high-quality business data is the core of digital transformation; data interconnection is the basis for improving the overall synergy efficiency of the shipping industry; IoT data collection is the premise for the development of intelligent shipping. Only through the accumulation and arrangement of data resources, and full exploitation of data value based on AI, deep learning and other analytical techniques, can we break through the bottleneck of development and realize transparent, intelligent and efficient operation in shipping industry.

The trend brought by the era of big data to the global port and shipping industry is reflected in three aspects:

First, promoting innovation, efficiency and service upgrade of the port and shipping industry. Constantly exploring new business opportunities and creating new value will be an effective way to improve the competitiveness and profitability of the industry. In addition, customization of information services, precision of operational decision-making, visualization and intellectualization of production business and other applications can also effectively promote the upgrading of shipping services; two, enhancing the international influence and the right to speak of the port and shipping industry. For the regional development, whoever has mastered the big data of the port and shipping industry will have the right to give voice internationally. For example, through big data analysis and preparation of indexes such as port operations and shipping prices, which can be used for price management, and through industry

航运业的透明化、智能化、高效化运作。

大数据时代给全球港航业带来的趋势体现在三个方面：

一是推动港航业创新、创效、服务升级，不断挖掘新的商机，创造新的价值，将是提升行业竞争力和利润率的有效途径，此外开拓信息服务定制化，运营决策精准化，生产业务可视化、智能化等方向应用都可以有效推动航运服务升级；二是提升港航业国际影响力和话语权，对于区域发展来讲，谁掌握了港航大数据，谁就具有国际话语权。例如通过大数据分析，编制港口运营、海运价格等方面指数，这些指数可以进行价格管理，还可以通过指数衍生品交易形成行业定价交易中心，在国际上形成更大的影响力；三是促进政府监管改革创新和公共服务精准化供给，通过大数据分析，进一步促进政府有效监管和公共服务水平的提升，并且适当的开放、共享数据，为行业增质提效提供支持。

当前，世界各国对大数据技术的研发同处在一个起跑线上，关键是能否抢占科技革命和产业变革的先机，探索基于大数据及其处理和分析在航运领域形成的新技术和新方法，通过大数据应用推进产业的新模式、行业的新动能、服务的新水平。中国的航运市场足够大，中国航运的数据足够多，中国大数据技术也足够强，没有理由做不好航运大数据科技应用。在大数据时代，更加需要各方加强合作、深化交流、促进信息共享和数据开放，构建跨界融合、共创共享的数字交通产业生态，推动航运大数据应用跨越式发展。同时，要抓住新一轮科技革命和产业变革的机遇，为我国实施国家大数据战略和交通强国建设提供支撑。

pricing trading center formed through index derivatives trading, greater influence in the international arena can be formed; three, promoting government regulatory reform and innovation as well as accurate provision of public services. Through big data analysis, government's effective supervision and public services have been further promoted, and data has been opened and shared in a proper manner to support the industry's quality and efficiency improvement.

At present, R&D of big data technology in the world is at the same starting line. The key is to seize the opportunity of the scientific and technological revolution and industrial transformation, and explore the new technologies and methods formed in shipping industry based on big data and its processing and analysis. We should improve the new models of the business, the new driving force of the industry, and the new levels of service through application of big data. China's shipping market is big enough, China's shipping data is large enough, and China's big data technology is strong enough. There's no reason why China can't have good application of big data technology in shipping industry. In the era of big data, it is even more necessary for all parties to strengthen cooperation, deepen exchanges, promote information sharing and data openness, construct cross-border integration, create a shared digital transportation industry ecology, and promote the leap-forward development of application of shipping big data. At the same time, we must seize the opportunity of the new round of scientific and technological revolution and industrial transformation, providing support for China's implementation of the national big data strategy and the construction of a traffic power.

In depth exploration on application and stimulation of innovation vitality

The development of shipping big data also faces some problems and challenges. First of all, as the massive data generated by the shipping industry is from different sources and of different formats, there exists the problem of lax standards and differentiated data quality; second, there is a lack of protection measures for data assets in big data sharing and application; third, there are security risks in application of big data, which are also "barriers" that hinder the development of big data; fourth, there is a lack of rich business demands and exploration of application scenarios in the application of shipping big data. In the future, more application scenarios will be needed to drive the application of shipping big data from integration to cross-border integration and application; fifth, the lack of big data composite talents in shipping industry is a major problem. Application and establishment of big data is a complex system and it takes time to cultivate composite and cross-border talents.

深挖应用 激发创新活力

航运大数据发展的同时也面临一些问题和挑战。首先，航运业所产生的海量数据由于来源不同、格式各样，存在标准决散和数据质量优劣的问题；其次，大数据的共享和应用缺乏数据资产的保护措施；三是大数据应用中存在的安全隐患，也是阻碍大数据发展的一个“关卡”；四是航运大数据的应用缺乏丰富的业务需求和应用场景的挖掘，未来航运大数据应用要从整合走向跨界融合和应用，需要更多的应用场景来驱动；五是航运大数据复合型人才缺乏是面临的主要问题，大数据应用和建立是一个复杂的体系，培养复合型和跨界性的人才需要时间。

针对上述问题，推进航运大数据应用发展，要在以下方面下功夫：

强化港航资源统筹配置能力，赋能大数据应用创新引导和升级。大数据的整合涉及到政府、市场和社会三个层面。需要强势推进才有可能加快实现。壮士断腕的勇气首先要从政府开始，不断引导企业推进航运大数据智能化应用。要切实贯彻国家大数据战略，高度重视航运大数据的挖掘与应用，要推倒政府、企业、科研机构等各自封闭的“围墙”，通过建立信息数据共享机制，共同享用数据红利。实现数据利用价值最大化。通过解决实时数据计算、历史数据分析、未来数据预测三大问题，不断增强权威数据对港航资源的配置能力，助力交通强国、航运强国、数字强国的不断发展。从顶层规划角度考虑大数据对于航运应用的思路和方向，以应用为导向，引导各方对于数据的共享、开放和应用。

并且，进一步完善航运数字基础设施、数据标准及安全体系建设。重视数字基础设施建设，大数据分析发挥其价值的基础在于数据采集的全面、准确、及时。同时，加速推进大数据标准体系的制定，以及数据安全、数据资产保护、认定、交易等方面探索，建立航运数据采集、传输、存储、共享、应用等大数据应用供应链上的统一标准与安全保障体系，筑好防护数据安全的“万里长城”，将安全防护贯穿在数据生成、采集、处理和共享等各个环节。

还要鼓励行业挖掘大数据应用场景，不断提升行业竞争力，以实际需求驱动航运大数据的应用场景，促进大数据、云计算、人工智能等技术与行业的融合，针对不同主体自身存在的各个分散的数据孤岛，建设“连岛工程”，进行数据的打通与融合，形成数据网络大通道。要补足“短板”，对于采集不够或者质量较弱的数据进行补充采集，并加强数据治理。要深度研究大数据在提供政府政务、基础服务、行业服务等方面的应用，推进产学研相结合，鼓励研究机构与企业、政府之间进行大数据分析与挖掘创新合作，激发航运大数据创新活力。

In view of the above problems, to promote the application and development of shipping big data, efforts should be made in the following aspects:

Strengthen the overall allocation ability of port and shipping resources, and empower application of big data with innovation guidance and upgrading. The integration of big data involves three aspects: government, market and society. A strong push is needed to speed up its realization. The government must take the lead to make quick decisions bravely and continuously guide enterprises to promote intelligent application of shipping big data. We should earnestly implement the national big data strategy, attach great importance to the exploration and application of shipping big data, push down the closed "walls" established by government, enterprises and scientific research institution, and maximize the value of data utilization by establishing information data sharing mechanism and sharing data dividends. By solving the three major problems of real-time data calculation, historical data analysis and future data prediction, and continuously strengthening the allocation ability of authoritative data to port and shipping resources, we can help to develop our country into a transportation, shipping and digital power. We should consider the idea and direction of big data for shipping applications from the perspective of top-level planning, and be application-oriented, guiding all parties to share, open and apply data.

Moreover, we should further improve the construction of shipping digital infrastructure, data standards and security systems. It is important to attach importance to the construction of digital infrastructure, as the foundation for big data analysis to play its value lies in the comprehensive, accurate and timely data collection. At the same time, we should accelerate the development of big data standards system, as well as data security, data asset protection, identification, transaction and other aspects, establish a unified standard and security system for big data application supply chain covering shipping data collection, transmission, storage, sharing and application. We should build a "Great Wall" to protect data security, and infiltrate security protection into all aspects of data generation, collection, processing and sharing.

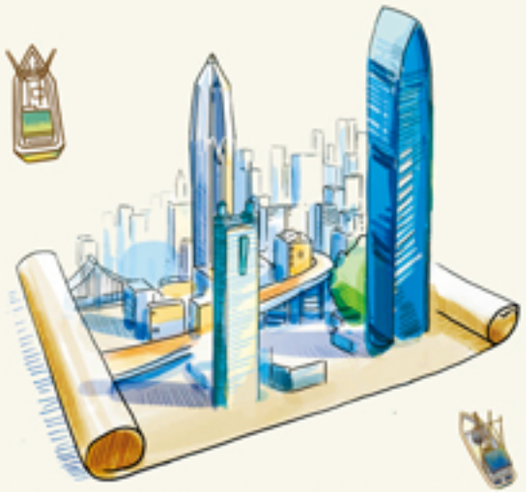
We should also encourage the industry to explore big data application scenarios, continuously improve the competitiveness of the industry, drive the application scenarios of shipping big data with actual needs, and promote the integration of technologies and industries such as big data, cloud computing and AI. In view of the scattered data silos existing in different subjects, a "connecting island project" should be built to open and integrate the data, so as to form a large data network channel. It is important to make up the "short board", make supplementary collection for data that are not sufficiently collected or with poor quality, and strengthen data management. We should conduct in-depth research on the application of big data in providing government affairs, basic services and industry services, promote the integration of production, education and research, encourage research institutions to establish cooperation with enterprises and government on big data analysis, exploration and innovation, and stimulate the innovation vitality of shipping big data.

CREATE AN ENABLING PLATFORM FOR MARINE INDUSTRY DEVELOPMENT TO GIVE IMPETUS TO SHENZHEN IN DEVELOPING A GLOBAL MARINE CENTRAL CITY

打造海洋产业发展赋能平台 推动深圳全球海洋中心城市建设

文/盐田港集团董事长 孙波
By Sun Bo
Chairman of Yantian Port Group

编者按： 10月14日，在中华人民共和国自然资源部指导下，由中国海洋发展基金会主办、盐田港集团具体承办的蓝色经济企业家国际论坛在深圳五洲宾馆成功举办。论坛举办于中华人民共和国成立70周年之际，响应我国实施海洋强国战略和建设粤港澳大湾区重大部署，具有重要意义。论坛上，盐田港集团董事长孙波围绕深圳建设全球海洋中心城市的优势和不足、未来深圳海洋产业的发展方向以及盐田港在推进深圳海洋产业发展上将作出的努力等三个方面作了深入分析与探讨。



今天非常荣幸有机会与诸位共同探讨蓝色海洋经济发展方向。我和大家分享的主题是：“打造海洋产业发展赋能平台，推动深圳全球海洋中心城市建设”。下面，我主要讲三个方面。

深圳建设全球海洋中心城市的优势和不足

评价全球海洋中心城市通常有五大类指标，分别是航运中心、海洋金融与法律、海洋科技、港口与物流、城市的吸引力与竞争力。全球海洋中心城市不仅应具备国际航运中心在航运、贸易、物流以及相关服务业方面的优势，还须是海洋金融、法律等高端海洋服务业的领导者，海洋科学技术和海洋发展体系的创新者和引领者，并且能通过各类机制、机构，在全球海洋治理方面发挥引导性的作用，为区域或全球提供有价值的公共产品，以完善的营商环境、完备的海洋产业集群和国际化便利的生活环境，对领先的海洋产业、海洋企业和高端人才形成强大的吸引能力和集聚能力。

对标全球海洋中心城市的五大类指标，深圳要打造具有国际竞争力和影响力的全球海洋中心城市，既要看到自己的优势所在，也要清醒认识自己的不足和短板。

一、具有较强的城市吸引力与竞争力

区位优势较为明显。深圳地处亚太主航道和粤港澳大湾区核心区域，毗邻香港，拥有海岸线260公里、海域面积1145平方公里，是中国大陆地区距离深海最近的城市之一，也是中国实施南海开发最具条件的城市，拥有广阔发达的经济腹地，区域发展带动效应明显。

科技创新实力突出。深圳全社会研发投入超1000亿，占GDP比重4.2%，比重与世界最高水平相当，居全国领先水平。前沿研究和科技成果转化能力优势突出，为新一代信息技术、高端装备制造、生物医药等战略性新兴产业的发展奠定了基础，也为相关技术延伸嫁接至海洋产业创造了充分条件。

体制机制创新。深圳在改革开放、探索先行先试方面一直走在全国前列，以海洋经济为例，市政府出台建立企业研发中心、转化海洋研发成果、掌握核心技术、建成海洋研究与成果转化平台等一系列措施和政策，实现科技支撑引领、大幅提升海洋经济发展能力。

营商环境较佳。深圳营商环境指数位居35个城市第一名，主要表现为深圳软环境指数排名第一、市场环境指数全国第三，市场主体数是全国唯一突破300万的城市，每千人注册市场主体、新增市场主体数，均为全国第一。

二、港口物流发展较好

深圳现代物流体系发达，是亚太地区重要的交通枢纽和物流中心，拥有世界第四大集装箱港口、亚洲最大的陆路口岸，是中国四大航空港口之一。物流业是深圳四大支柱产业之一，2018年深圳市物流业增加值突破2500亿元，同比增长9.35%，占全市GDP比重连续5年保持在10%以上。尤其是，深圳港市场化程度高，经营模式和装卸运作效率国际一流，2018年完成集装箱吞吐量2574万标准箱，是华南集装箱主枢纽港、全球集装箱干线港。

The advantages and disadvantages of Shenzhen in building a Global Marine Central City

There are usually five main indicators to evaluate a global marine central city, including shipping centers, marine finance and law, marine science and technology, ports and logistics, and the attractiveness and competitiveness of the city. Global marine central cities should have the advantages of international shipping centers in shipping, trade, logistics and related services, take the lead in the high-end marine service industries such as marine finance and law, and make innovations and lead the development of marine science and technology and marine development systems. They should play a leading role in global ocean governance through various mechanisms and institutions, provide valuable public goods for the region or the world, attract and gather the leading marine industries, marine enterprises and high-end talents with a sound business environment, complete marine industrial clusters and an international and convenient living environment.Based on the five major indicators of the global marine central city, Shenzhen should identify both its strength and weaknesses in order to build itself into a global marine central city with international competitiveness and influence.

1.Strong attractiveness and competitiveness

Excellent geographical location. Shenzhen is located in the main waterway of the Asia-Pacific region and the core area of Guangdong-Hong Kong-Macau Greater Bay Area. It is adjacent to Hong Kong, with a coastline of 260 kilometers and a sea area of 1,145 square kilometers. Shenzhen is one of the cities closest to the deep sea in China's mainland, and also the most qualified city in China to develop the South China Sea. It has a broad and advanced economic hinterland, and functions as a great driving force for the regional development.

Outstanding scientific and technological innovation. Shenzhen' s investment in research and development exceeds 100 billion RMB, accounting for 4.2% of its GDP. This ratio is among the highest in both China and the world. The excellent ability to commercialize cutting-edge research and technological achievements has laid a foundation for the development of a new generation of information technology, high-end equipment manufacturing, biomedicine, and other strategic emerging industries, and has also enabled the applying of relevant technologies in the marine industry.

Institution and mechanism innovation. Shenzhen has been taking the lead in China in the reform and opening up. Take the marine economy as an example, the municipal government has issued a series of measures and policies, such as establishing enterprise R & D centers, commercializing marine R & D achievements, mastering core technologies, and building a platform for marine research and achievement commercialization, so as to greatly develop the marine economy with the support and guidance of science and technologies.

Premium business environment. Shenzhen's doing business index ranks first among the 35 cities. To be more specific, Shenzhen's soft environment index ranks first, and the market environment index ranks the third in the country. It is the only city in China with over 3 million market entities, and the number of registered market entities and new market entities per 1000 people both rank first in China.

2.Well-developed port logistics.

Shenzhen has an advanced modern logistics system. It is an important transportation hub and logistics center in the Asia-Pacific region with the fourth largest container port in the world and the largest land port in Asia. It is also one of the four major aviation ports in China. The logistics industry is one of the four pillar industries in Shenzhen. In 2018, the added value of the logistics industry in Shenzhen exceeded 250 billion yuan, an increase of 9.35% over the same period last year, accounting for more than 10% of the Shenzhen's GDP for five consecutive years. In particular, Shenzhen Port is highly market-oriented with first-class business model as well as handling efficiency in the world. Its container throughput was 25.74 million TEUs in 2018. It is the main container hub port in South China and a key gateway for container traffic in the world.

3.Sufficient hard power and insufficient soft power

The soft power of shipping service is mainly reflected in fields including maritime arbitration, shipping insurance, intermediary services, ship economy, shipping finance and derivative products. Take London, the international shipping center, as an example, over 90% international maritime disputes are arbitrated in London and 20% of the world's ship management agencies are based in London. Besides, 50% tanker chartering business, 40% bulk carrier business, 18% ship financing business and 20% shipping insurance business are carried out in London. Shenzhen port has a good foundation for the shipping

三、具备建设国际航运中心硬实力，但软实力还不够

航运服务软实力主要体现在海事仲裁、航运保险、中介服务、船舶经济、航运金融及衍生产品等领域。以国际航运中心伦敦为例，超9成的国际海事纠纷在伦敦仲裁，世界20%的船级管理机构常驻伦敦，50%的油轮租船业务、40%的散货船业务、18%的船舶融资业务和20%的航运保险业务都在此进行。深圳港口航运业发展基础较好，但船舶业及航运服务业发展滞后，如海事法律、航运金融、航运保险、航运咨询服务等发展较为空缺，同时对航运金融等方面的政策支持也不够。

四、海洋科技及相关产业还有待进一步拓展和提升

深圳在科研人才、原创性成果和大科学装置方面基础较薄弱，如海洋专业研究机构较为缺乏，海洋产业相关人才数量不足，院士、学科带头人等高端人才密度低。海域、岸线及海岛资源紧缺，深圳土地资源有限，建设用地规模仅有1000平方公里左右，城市快速发展对建设用地的需求迫切，持续挤压海洋装备制造、海洋交通运输等传统海洋产业发展空间，海洋新兴产业发展空间也受到较大程度的制约。深圳科技创新能力较强，但科技创新与海洋产业结合的不够紧密，海洋产业结构和空间布局有待优化，政策突破难度较大，海洋科技自主创新能力不强。

五、海洋金融与法律等海洋高端服务相对薄弱

目前海洋产业对金融机构的吸引力不足，同时缺乏海洋金融发展的政策和法律支持。专业性的海洋金融机构和海洋法律机构不足，缺乏契合海洋经济特点的金融产品，海洋产业体系的多维金融需求难以满足。

深圳海洋产业发展方向

海洋是蓝色文明的象征，欧美一些城市的海洋产业发展领先全球，深圳作为后起之秀也在奋力追赶。未来，我认为深圳发展海洋产业要从五个方面着力。

一、创新驱动，建设现代海洋产业体系

从现实来看，要推动海洋领域新旧动能转换，通过技术革新和机制创新为传统海洋产业注入新活力，促进传统海洋产业转型升级。

在港航方面，一方面要加快向四代港升级，利用人工智能、大数据、5G等信息技术，加快智慧港口的建设。另一方面加强与香港在航运服务、航运保险、海事法律等领域的深度合作，完善航运服务体系，通过两地港航规则衔接，探索建设深港组合港，创新快速通关模式，实现两地港口物流服务一体化，共同建设辐射全球的国际航运中心。在海洋油气方面，要进一步鼓励海洋油气开发企业创新深远海油气开发模式，加强与技术领先的国际海洋石油企业合作，努力建设南海能源开发综合服务平台。在海洋旅游方面，可以从游艇交易、停泊、粤港澳游艇自由行等方面促进邮轮游艇行业发展，打造国际湾区休闲旅游经济发展带。

从长远来看，要充分发挥深圳在电子信息、生物、金融等产业领域的创新优势，加快海洋新兴产业的突破和发展。

加快海洋电子信息产业发展。鼓励大型电子信息企业向海洋领域拓展，重点培育海洋电子信息龙头企业。发展船舶电子、海洋观测和探测、海洋通信、海洋电子元器件等海洋电子信息设备和产品，以及海洋信息系统与信息技术服务。提升海洋高端装备产业层次。重点发展高附加值钻井平台配套模块；海底地形探测系统、深潜器关键技术和装备、水下机器人、海洋矿产勘探技术和装备，深海装备用新型材料。加快海洋生物医药产业重点突破。如海洋生物育种、海洋生物制品、海洋生物制药产品等领域。发展海洋新能源产业。开展海水淡化、海上风电、天然气水合物（可燃冰）、深海矿产、海藻生物质能等领域的开发，推动海洋新能源研发、设计、测试、施工等上下游产业集聚发展。

二、合作共赢，推动成立海洋产业联盟

建议推动涉海企事业单位、高等院校、科研院所、行业协会等，发起成立深圳海洋产业联盟，以市场为导向，促进产学研用融合，发挥联盟成员单位的资源优势，打造涉海部门交流合作平台、海洋产业科技成果转化平台、海洋产业智库服务平台和海洋产业招商引资平台。

三、聚资源、搭平台，培育完善海洋产业链

“技术+资本+产业链”的产融发展新模式是做大做强海洋产业的重要途径。深圳拥有科技和资本方面的优势，同时资本也可以引进高端技术，而产业链要依靠企业作为主体，以市场化的方式进行培育，推动海洋有关产业向产业链上下游延伸，这是政府、科研机制、行业组织均无法实现的。为此，深圳需要积极打造具有国际影响力、竞争力的海洋平台企业，促进海洋产业资源高水平聚集发展，快速形成世界级海洋产业集群。

四、加大海洋金融支持力度

资本是发展海洋产业的重要支撑。一是建议为海洋产业发展营造良好的融资环境，扶持优质海洋企业IPO、发行债

industry development, but lags behind in the shipbuilding industry and shipping service industry. For example, it doesn't provide services in maritime law, shipping finance, shipping insurance, shipping consulting and so on. Meanwhile, the policy support for shipping finance is not enough.

4.Marine science and technology and relevant industries need to be improved

Shenzhen has a weak foundation in research personnel, original achievements and large scientific devices. For example, it lacks marine research institutions and talents in the marine industry, and has a low density of high-end talents such as academicians and discipline leaders. Shenzhen's sea area, coastline and island resources are scarce, and the land resource is also limited. The city's rapid development has an urgent need for the construction land, which covers only around 1,000 square kilometers. Therefore, it continuously squeezes the space for the development of traditional marine industry such as marine equipment manufacturing and marine transportation. Besides, the development of marine emerging industries is also restricted to a large extent. Although Shenzhen is strong at scientific and technological innovation, the combination of scientific innovation and marine industry is not close enough, and the structure and spatial layout of the marine industry still need to be optimized. Besides, it is difficult to make policy breakthroughs, and the innovation ability of marine science and technology is not strong enough.

5.Relatively weak marine high-end services such as marine finance and law

At present, the marine industry is not attractive to financial institutions, and there is a lack of policy and legal support for the development of marine finance. Shenzhen lacks professional marine financial or legal institutions and financial products in line with the characteristics of the marine economy, and it cannot meet the multi-dimensional financial needs of the marine industry system.

The goal of the development of Shenzhen's marine industry

1.Shenzhen should pursue the innovation-driven development and establish the modern marine industry system

From a realistic point of view, it is necessary to promote the replacement of old growth drivers with new ones in the marine industry, inject new vitality to the traditional marine industry through technological and mechanism innovation, and promote the transformation and upgrading of the traditional marine industry.

In terms of port and shipping, on the one hand, it is necessary to speed up the upgrading to the fourth-generation ports, and accelerate the construction of smart ports by using artificial intelligence, big data, 5G and other information technologies. On the other hand, Shenzhen should strengthen in-depth cooperation with Hong Kong in the fields of shipping services, shipping insurance and maritime law to improve the shipping service system. Through the convergence of port and shipping rules between the two places, it can explore the construction of the Shenzhen- Hong Kong Port, innovate the mode of rapid customs clearance, achieve the integration of port logistics services between the two places, and jointly build an international shipping center that radiates the world. In terms of offshore oil and gas, it is necessary to encourage offshore oil and gas development enterprises to innovate the models for deep-water offshore oil and gas development, strengthen the cooperation with international offshore oil enterprises with leading technologies, and strive to build an integrated service platform for energy development in the South China Sea. In terms of marine tourism, Shenzhen can promote the development of the cruise and yacht industry from yacht trading, mooring, as well as yacht travel in Guangdong, Hong Kong and Macao, and build an international economic development belt for leisure tourism in the Greater Bay Area.

From a long-term perspective, it is necessary to give full play to Shenzhen's innovative advantages in industries including electronic information, biology, and finance, and speed up the breakthrough and development of emerging marine industries.

Shenzhen should accelerate the development of the marine electronic information industry. It should encourage large electronic information enterprises to expand into the marine field, focus on the cultivation of the leading enterprises in marine electronic information, develop marine electronic information equipment and products such as shipping electronics, marine observation and exploration, marine communication, and marine electronic components, and develop marine information systems and information technology services. Shenzhen should upgrade the marine high-end equipment industry. It should focus on the development of the supporting modules for high value-added drilling platforms, seafloor terrain exploration systems, key technologies and equipment for bathyscaphes, underwater robots, marine mineral exploration technologies and equipment, and new materials for deep-sea equipment. Shenzhen should accelerate key breakthroughs in the marine bio-pharmaceutical industry such as marine biological breeding, marine biological products, and marine bio-pharmaceutical products. Shenzhen should also develop the marine new energy industry. It should develop the fields of seawater desalination, offshore wind power, natural gas hydrate (combustible ice), deep-sea minerals, seaweed biomass energy, and promote the accumulation and development of upstream and downstream industries including marine new energy research and development, design, testing, and construction.

2.Shenzhen should pursue the win-win cooperation and promote the establishment of the marine industry alliance.

It is suggested to establish the Shenzhen Marine Industry Alliance with the cooperation of sea-related enterprises and institutions, higher education institutions, scientific research institutions and trade associations. This alliance should be market-oriented. It can promote the integration of production, learning and research, give full play to the resource advantages of its members, and develop a platform for the exchange and cooperation among sea-related departments, a platform for the commercialization of scientific and technological achievements in the marine industry, a platform for the think tank service in the marine industry, and a platform for investment promotion of the marine industry.

3.Shenzhen should gather resources, create platforms and develop a complete marine industry chain.

The new mode for industrial and financial development of "technology + capital + industrial chain" is an important way to enlarge and strengthen the marine industry. Shenzhen has the advantages of science, technology and capital, and capital can introduce high-end technologies at the same time. However, the cultivation of the industrial chain should rely and focus on enterprises and be market-oriented, so as to promote the extension of marine-related industries to the upstream or downstream of the industrial chain. This cannot be achieved by the government, scientific research mechanism, and industry organizations. For this reason, Shenzhen needs to develop marine platform enterprises with international influence and competitiveness, promote the high-level aggregation and development of marine industrial resources, and form a world-class marine industrial cluster quickly.

4.Shenzhen should increase the support for marine finance

Capital is an important support for the development of marine industry. On the one hand, it is suggested to create a good financing environment for the development of the marine industry, support high-quality marine enterprises in IPO, bonds issuing, and asset securitization, support marine enterprises in merge and acquisition in order to be larger and stronger, and support the financing of marine science and technology enterprises by way of the pledge of intellectual

券、推进资产证券化等，支持海洋企业并购整合、做大做强。支持海洋科技企业以专利、著作权等知识产权质押的方式进行融资。二是加快设立国际海洋开发银行和海洋产业发展基金，加强与香港在海洋金融领域合作，促进海洋金融要素集聚，逐步形成海洋金融中心。

五、大力提升海洋科技研发能力

科技是发展海洋产业的重要引擎。要大力培养和引进海洋科技人才，加大海洋科技关键核心技术的攻关力度，推动海洋类高校、创新型涉海科研机构落户深圳，可以考虑通过收购、兼并国外海洋高科技企业或实验室等方式，聘请国外顶尖学者，强化配套科研团队，提升海洋核心科技支撑和成果转化应用能力。

盐田港将努力成为深圳海洋产业发展赋能平台

盐田港集团是深圳市属涉海类国有大型企业集团。目前，我们在深圳拥有盐田港、大铲湾港、深汕小漠港等海港资源，2018年完成集装箱吞吐量达1439万标箱，占深圳港58%；泊位数量占深圳港51%，海岸线资源占深圳港约60%。集团通过加强与香港和记黄埔、现代货箱战略合作，成功投资运营盐田港和大铲湾港，盐田港已累计实现集装箱吞吐量1.7亿标箱，单一港区规模和效益位居世界首列。

依托优良的涉海资源、优越的开发运营能力，以及良好的资本运作，我们认为盐田港集团可以很好地发挥深圳海洋产业平台功能和产业赋能功能。我们将以自身资源为平台，以资本为纽带，以市场为导向，以优质项目为载体，加大海洋资源整合力度，集成海洋产业上下游产业链条，提升海洋产业集中度和产业链价值，加快深圳海洋产业发展，助推深圳全球海洋中心城市建设。我们将从以下方面着手推进。

一、助力深圳建设国际航运中心

加快向第四代港升级。加快盐田港区东作业区3个20万吨级全自动化码头建设，积极推进盐田港智慧港口人工智能实验室和5G智慧港区建设，努力将盐田港区建成全球最领先的集装箱码头。

完善集疏运体系。重点投资建设深赣港产城示范区项目、江门鹤山珠西物流产业新城PPP项目和深圳平湖近距离内陆港项目，依托内陆港大力推广海铁联运，发展中欧班列；加快完成惠盐高速改扩建、平盐铁路扩能改造等项目，完善港口集疏运体系建设。

打造液态食品码头和跨境交易平台。依托小漠港港区及深汕合作区产业体系中食品加工、生态农业等产业优势，转

property rights such as patents and copyrights. On the other hand, Shenzhen should speed up the establishment of the international ocean development bank and the marine industry development fund, strengthen the cooperation with Hong Kong in the field of marine finance, promote the gathering of marine financial elements, and gradually form a marine financial center.

5.Shenzhen should improve the ability to research and develop marine technologies.

Science and technologies are important engines for the development of marine industry. Shenzhen should train and introduce talents in marine science and technology, make breakthroughs in the core technologies in marine science and technology, and promote marine universities and sea-related scientific research institutions which are innovation-oriented to settle in Shenzhen. Through the acquisition and merger of foreign marine high-tech enterprises or laboratories, it can hire top overseas scholars, strengthen the supporting scientific research team, and improve the ability to support the core marine technologies and to commercialize and apply the achievements.

Yantian Port will strive to become an enabling platform for the marine industry development of Shenzhen.

Relying on excellent seaport resources, development and operation ability, and capital operation, YTP can give full play to its function as a platform of Shenzhen marine industry as well as the function to empower the industry. It will take its own resources as the platform, take capital as the link, take the market as the guidance, and take high-quality projects as the carriers, so as to further integrate marine resources, form the upstream and downstream industrial chains of the marine industry, increase the concentration of the marine industry and the value of the industrial chain, speed up the development of the marine industry in Shenzhen, and promote Shenzhen to become a global marine central city. It will start with the following aspects.

1.Yantian Port will give impetus to Shenzhen in developing an international shipping center.

Yantian Port will speed up the upgrading to the fourth-generation port. It will speed up the development of three 200,000-ton fully automated terminals in the East Port of Yantian Port, promote the development of smart port artificial intelligence laboratory and 5G smart port area of Yantian Port, and strive to build Yantian Port Area into the world's leading container terminal.

Yantian Port will improve the port transportation system. It will focus on the investment and development of the Shenzhen-Ganzhou Port Industry-City Demonstration Zone Project, the Zhuxi Logistics Industry New Town PPP Project of Heshan in Jiangmen, and the inland port project of Pinghu in Shenzhen. It will vigorously promote sea-rail transport based on inland ports, and develop China-Europe railway express. Besides, it will also accelerate the projects including the renovation and expansion of Huizhou-Shenzhen Expressway and Pingyan Railway, and improve the development of the port transportation system.

Yantian Port will build a liquid food terminal and a cross-border trading platform. Relying on the industrial advantages of food processing and ecological agriculture in the industrial system of Xiaomo Port Area and Shenzhen-Shanwei Cooperation Zone, it will make transformation and construct a liquid food terminal. Through the close cooperation with the industrial chain, it will integrate the procurement, logistics, packaging, processing, distribution and sales in the form of industrial fund investment, take the lead in building a cross-border liquid food industry chain in China, and create a characteristic liquid food trading platform.

Yantian Port will build an international shipping service center. Relying on the good cooperation basis with Hong Kong, it will focus on attracting the headquarters or branches of shipping enterprises to

型建设液态食品码头。通过与产业链紧密合作，以产业基金投资的形式，整合采购、物流、分装加工、分销与销售等环节，在国内率先构建跨境液态食品产业链，打造独具特色的液态食品交易平台。

建设国际航运服务中心。依托与香港的良好合作基础，将重点吸引航运企业总部或分支机构入驻，发展船舶保险、航运金融、法律、融资租赁等特色服务，加快构建完善的货运代理、船舶代理、信息资讯服务、船员劳务等航运服务体系，推动盐田综保区转型升级，加快建成全国最大的盘道直入式仓库——盐田港现代物流中心，发展跨境贸易，拓展冷链物流、检测维修中心等新业态，构建跨境电子商贸孵化器。

二、打造海洋科技产业聚集地

建设海洋科技产业园区。充分利用大铲湾港区位优势及产业发展空间，通过引进中国海洋大学深圳研究院等，集聚海洋科技高端人才，整合国内外海洋科技力量，推动海洋科技产业在大铲湾片区的研发和成果转化，把大铲湾片区打造成为国际一流的海洋科技产学研基地和孵化推广平台。

建立海洋金融服务中心。联合基金公司、涉海企业共同设立海洋产业发展基金。探索设立海洋科技产业孵化基金，支持海洋科技产业园导入；积极参与国家海洋开发银行筹建，培育航运保险与再保险、海洋产业资产证券化等业务，在海洋能源、海洋生物、海洋装备制造、海洋科技等领域的细分市场，形成特色化产品体系和金融服务方案，努力打造成为具有行业影响力的海洋金融服务中心。

三、建设深远海综合保障基地

充分利用大铲湾三期资源，以远洋渔业基地作为深圳国家级远洋渔业基地一期工程，以金枪鱼交易中心为核心特色，引入高端海洋经济创新产业，加快建设深远海综合保障基地。

四、建设国际海洋文化基地

推动率先对香港游艇开放，发挥前海湾区游艇产业集聚优势，规划建设集展示、交易、休闲娱乐等于一体的国际游艇自由港。同时依托大铲湾丰富的海岸线资源，发展博物展览、滨海休闲、文化体验等功能，打造水城共融的特色滨海休闲环境。

盐田港集团将通过加快转型发展，推动海洋产业资源要素聚集，努力打造成为海洋产业发展赋能平台，勇当深圳建设全球海洋中心城市的主力军、生力军，为深圳建设中国特色社会主义先行示范区贡献全部力量。

move in, develop unique services such as ship insurance, shipping finance, law, and financial leasing, and speed up the construction of a complete shipping service system including freight forwarders, shipping agents, information services and crew services. It will promote the transformation and upgrading of the Yantian Integrated Bonded Area, speed up the development of Yantian Port Modern Logistics Center, China's largest warehousing and distribution complex with spiral drive-in tracks, develop cross-border trade, expand new business models such as cold chain logistics and testing and maintenance centers, and build a cross-border e-commerce incubator.

2.Yantian Port will build a gathering place for marine science and technologies.

Yantian Port will build an industrial park for marine science and technologies. It will make full use of the geographical advantages and industrial development potential of Dachan Bay Port Area, and gather high-end marine science and technology talents and integrate marine science and technology at home and abroad through the introduction of Shenzhen Research Institute of the Ocean University of China, so as to promote the research and development as well as the achievement commercialization of the marine science and technology industry in the Dachan Bay area, and build this area into a world-class production, learning and research base of marine science and technologies as well as an incubation and promotion platform.

Yantian Port will establish a marine financial service center. It will work with fund companies and sea-related enterprises to set up a marine industry development fund, explore the establishment of a marine science and technology industry incubation fund, and support the introduction of a marine science and technology industrial park. It will participate in the establishment of the China Ocean Development Bank, develop business including shipping insurance and reinsurance, and asset securitization of the marine industry. Besides, it will form a characteristic product system and financial service program in market segments including marine energy, marine life, marine equipment manufacturing, and marine science and technology, and strive to establish an influential marine financial service center in the industry.

3.Shenzhen Port will establish a comprehensive offshore support base

Shenzhen Port will make full use of the resources of the third phase of Dachan Bay project, take the offshore fishery base as the first phase of the national offshore fishery base of Shenzhen, and take the tuna trading center as the core, so as to introduce the high-end marine economic innovation industry, and speed up the development of a comprehensive offshore support base.

4.Shenzhen Port will establish an international marine culture base

Shenzhen Port will take the lead in opening up to Hong Kong yachts, give full play to the advantage of yacht industrial clusters in Qianhai Bay Area, and plan to build an international free port for yacht with the integration of exhibition, trading, leisure and entertainment. Meanwhile, it will rely on the rich coastline resources of Dachan Bay to develop the functions of exhibition, coastal leisure and cultural experience, and create a characteristic coastal leisure environment with the harmonious integration of sea and city.

YTP will speed up the transformation and development to promote the accumulation of marine industry resources, strive to become an enabling platform for the development of the marine industry, as well as the main and new force to build Shenzhen into a global marine central city. It will contribute all the efforts to facilitate Shenzhen to build a pilot demonstration zone of Socialism with Chinese characteristics.

THE PATH FOR DEVELOPMENT AND INNOVATION OF AN OPEN MARINE FISHERY SYSTEM IN THE NEW ERA

新时代开放型海洋渔业体系构建与创新路径探讨

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2015年《中共中央国务院关于构建开放型经济新体制的若干意见》中指出要“加强国际远洋渔业合作”，意味着开放型渔业体系的构建，将本土渔业企业的“走出去”行为上升成为国家统筹战略的重要组成部分。开放型渔业体系需要从远洋捕捞、水产养殖、渔业转型升级、国际水产品贸易、国际渔业事务话语权等多个维度，重构中国全方位、多层次、宽领域的开放型渔业新格局。“21世纪海上丝绸之路”倡议有助于形成多方合力助推开放型渔业体系建设的格局，促使现代海洋渔业纵深化发展。加快建设开放型渔业体系是“21世纪海上丝绸之路”建设的必然要求和重要内容，也是新时代“高质量”打造“向海经济”的关键发展领域。

新时代开放型海洋渔业体系构建的内容

新时代开放型海洋渔业体系的构建将有利于中国渔业企业积极把握历史机遇，充分利用国内国际两个市场、两种资源，通过在全球拓展捕捞与养殖海域，形成渔业的全球布局。同时，在注重保护海洋生态系统健康以及可持续开发利用渔业资源的基础上，推广海洋“科技兴渔”，确保“21世纪海上丝绸之路”沿线的沿海各国“以渔兴业”，保障中国海上贸易通道安全，使各国共享渔业合作发展成果。其主要建设内容如下：

一、构建海洋渔业国际合作伙伴关系的新模式

新时代开放型渔业体系集中整合中国海洋渔业的科技水平和综合开发能力，助力实现在地理范围、水域深度、捕捞品种等方面更为深入的国际合作，不仅顺应中国“蓝色粮仓”建设的战略资源需求，同时也有助于实现入渔国渔业资源的有效开发利用。为此，要积极探索生产贸易与投资合作的新模式，推动全球渔业价值链的不断深化，推进包容性与可持续性新型海洋渔业合作伙伴关系的塑造。

二、创新开放型渔业体系合作的新领域

构建新时代开放型渔业体系将有助于建立畅通、稳定的国际合作渠道，积极推进渔业企业的国际贸易和对外投资，在海水养殖、远洋渔业、水产品加工、冷链物流、水产品进出口等渔业关联产业方面深入开展合作。中国应增强渔业企业科技服务能力，在公海渔业资源开发利用及养护、海洋渔业技术及知识产权、海洋渔业生存环境的检测等领域开展国际交流合作。通过国际直接投资，以投资设厂或控股的形式建设远洋渔业基地或加工厂，交流生产加工技术，共同构建现代化的水产加工车间、存储仓库、育苗中心、检疫中心等。在促进中国渔业转型升级的同时，也应注重促进入渔国创收，并实现国际生产、劳务与服务的跨境流动。中国应当有条件地设立国家间渔业自由贸易区，以倒逼机制推动落实

Opinions of the Central Committee of the CPC and the State Council on Building A New Open Economic System (2015) highlighted the concept “strengthening international pelagic fishery cooperation”, which means that building an open fishery system through the “going global” strategy of China’s fishery enterprises has become an important part of the overall national strategy. The open fishery system will reconstruct China’s fishery pattern in a all-dimensional, multi-layered and wide-range way from multiple dimensions, such as developing pelagic fishing, aquaculture and international aquatic products trade, promoting the transformation and upgrading of fishery, and enhancing China’s discourse power in international fishery affairs. The “21st Century Maritime Silk Road” Initiative is conducive to form a multi-party cooperation to boost the building of an open fishery system and promote in-depth development of modern marine fisheries. The building of an open fishery system needs to be speeded up for the development of the “21st Century Maritime Silk Road”, and it is also a key to develop a high-quality marine economy in the new era.

The Development of an Open Marine Fishery System

in the New Era

1.Creating New Models of International Cooperative Partnership in Marine Fisheries

In the new era, the open fishery system will help China’s marine fishery integrate its scientific and technological capacity and comprehensive development capability, and futher promote in-depth international cooperation in geographical scope, depth of waters, fishing species and other fields. It not only conforms to the strategic demand of China’s building of the “blue granary”, but also helps to realize the effective development and utilization of fishery resources in fishing countries. Therefore, we should make efforts to explore new models of cooperation in production, trade and investment, deepen the value chain of global fishery, and finally shape a new, inclusive and sustainable cooperation partnership in marine fisheries.

2.Exploring New Areas of Cooperation in an Open Fishery System

Building an open fishery system in the new era will contribute to establish unimpeded and stable channels of international cooperation, actively promote international trade and foreign investment of fishery enterprises, and enhance in-depth cooperation in fishery related industries such as mariculture, pelagic fishery, aquatic product processing, cold chain logistics, and the import and export of aquatic products. China should improve the scientific and technological service capabilities of fishery enterprises and carry out international exchanges and cooperation in various areas, including the development and utilization of high-sea fishery resources, marine fishery technology and intellectual property rights, and the testing of the living environment of marine fisheries. Through international direct investment, Chinese marine fishery enterprises can take part in the development of pelagic fishery bases or processing factories by investing or controlling shares, exchange producing and processing technology, and jointly build modern aquatic processing workshops, storage warehouses, breeding centers and quarantine centers with foreign parteners. While promoting the transformation and upgrading of fishery, China should also pay attention to help fishing countries generate revenue and drive the cross-border flow of international production, labor and services. China should set up fishery free trade zones based on certain conditions, so as to draw up the production safety standards of aquatic products for participating countries and comprehensively improve the cooperation efficiency of an open fishery system.

3.Implementing the New Concept of International Cooperation in Marine Fishery

参与国水产品生产安全标准底线的建立，全面提升开放型渔业体系的合作效率。

三、践行海洋渔业国际合作的新理念

中国应更主动地参与到国际渔业经贸合作中，以财政、基金等形式支持渔业企业“走出去”，鼓励企业在国际合作中主动高效地整合利用全球科技资源，不断增强自身科技创新能力，进而推进产业转型升级。企业应致力于开发有针对性的渔业产业园区建设项目，探索建设中外合作、公私合作的海洋渔业境外经贸合作区、边境 / 跨境经济合作区等各类产业园区，促进关联产业集群式发展，以此优化海洋渔业全产业链的国际分工布局，充分发挥产业间的关联效应，带动其上下游产业链发展，提升产业配套设施综合竞争力。在研发、生产和营销等环节加强体系建设，保证关联产业实现协同发展，实现海洋渔业全产业价值链的延伸。同时，企业在合作项目中应兼顾保护海洋生态环境与生物多样性。坚持包容性与可持续性是践行开放型海洋渔业体系的基本理念，二者之间存在“正反馈”式的良性互动关系。“走出去”与“引进来”相结合是包容性的重要体现，而通过海洋渔业深化发展带动国际经济社会同步发展并兼顾以消除落后渔业国家贫困为代表的“代内公平”，及以保护生态环境为代表的“代际公平”，正是渔业可持续发展性的本质要求。

新时代开放型海洋渔业合作体系构建的举措与路径

一、海洋渔业资源配置为主：国际化

新时代的海洋渔业国际合作将从渔业资源的寻求型合作转变成为共享型合作。在“一带一路”倡议提出前，渔业资源合作是逐利性、企业自主性、区域单一化的结合。渔业企业会根据各国渔业资源价格、税收优惠信息，与其运营成本进行对比，以利润最大化为目标开发利用渔业资源。而企业自主逐利渔业资源开发的渠道有限，可能导致水产品单一的进口依赖与入渔国的选择集中，进而降低中国对单一入渔国的进口替代弹性，加大生产安全的风险。“一带一路”倡议下的海洋渔业国际合作，则是基于中国陆域和近海资源难以满足规模庞大的人口持续增长的需求而提出的。发展远洋、境外渔业资源可实现对我国高强度开发的陆域和近海资源的有效替代。在“21世纪海上丝绸之路”倡议下，中国与各国签署了渔业合作备忘录和自由贸易协定，具有实现渔业资源全球有组织配置、维护国家粮食安全的战略意义。目前中国渔业企业的作业范围已拓展到世界40多个国家和地区的专属经济区，不仅满足了人们对于水产品的需求，促进了水产品的可持续贸易，还缓解了中国近海环境恶化、资源紧张的困境。

China should take the initiative in international fishery economic and trade cooperation, provide financial and fund support for fishery enterprises to "go global", encourage them to actively and efficiently integrate and utiline global scientific and technological resources in international cooperation, to constantly enhance their scientific and technological innovation capabilities, so as to promote industrial transformation and upgrading. Chinese enterprises should dedicate themself to developing projects of building fishery industrial parks with clear aims, exploring ways to construct overseas marine fishery economic and trade cooperation zones, cross-border economic cooperation zones and other kinds of industrial parks with Chinese-foreign or public-private partnership, and to promoting the development of the related industry clusters. In doing so, the layout of international division of labor in the whole industry chain of marine fisheries will be optimized, and the correlation effect between industries will stimulate the development of the upstream and downstream industrial chains and enhance the comprehensive competitiveness of industry facilities. Besides, Chinese enterprises need to strengthen systematic development in fields such as research and development, production and marketing to ensure a coordinated development of related industries, extending the whole industrial value chains of marine fisheries. At the same time, Chinese enterprises should take into account the protection of marine ecology and biodiversity in cooperative projects. As the basic concepts of an open marine fishery system, inclusiveness and sustainability have positive interaction. To realize inclusiveness, enterprises are required to implement both "going out" and "bringing in" strategies. While to fulfill the sustainability, they need to deepen the development of marine fisheries to promote international economic and social development, and strike a balance between eliminating the poverty of backward fishery countries and protecting the ecological environment.

Measures and Paths for Building an Open Marine Fishery Cooperation System in the New Era

1.Internationalizing the Allocation of Marine Fishery Resources

In the new era, the international cooperation of marine fishery will transform from seeking fishery resources to sharing fishery resources. Before the Belt and Road Initiative was introduced, cooperation in fishery resources was conducted by profit-oriented enterpeises spontaneously in single regions. When developped and utilized fishery resources, fishery enterprises would compare the price and tax preference of various countries with their operating costs, so as to realize their goal of maximizing profits. However, profit-oriented enterpeises had limited channels to develop fishery resources, which may cuase problems such as single channels of importing aquatic products and restricted fishing countries available to be chosen, thereby reducing the elasticity of import substitution for a single fishing country and increasing the risk of production safety. The international cooperation in marine fishery proposed by the Belt and Road Initiative is based on the fact that China's land and offshore resources are unable to meet the needs of a large and growing population. The development of pelagic and offshore fishery resources can effectively replace the highly intensive exploitation of land and offshore resources in China. Proposing the "21st Century Maritime Silk Road" Initiative, China has signed memorandums of cooperation on fishery and free trade agreements with other countries, which are of strategic significance in realizing organized global allocation of fishery resources and safeguarding national food security. At present, Chinese fishery enterprises has expanded their operation to the exclusive economic zones of more than 40 countries and regions in the world, which not only meets people's demand for aquatic products, promotes sustainable trade in aquatic products, but also alleviates the plight of the deterioration of offshore environment and the resource shortage in China.

2.Generalizing Advanced Fishery Technology

二、渔业技术进步选择为核：通用化

新时代的海洋渔业国际合作将从渔业技术垄断独占型合作转变成为渔业技术互促共享型合作。渔业技术的进步是深化区域渔业合作的重要驱动力，及时将海洋渔业新技术转化为生产力，实现产业化生产，将有效提高渔业的产量和效益，进一步增强水产品加工的附加值及市场竞争力。在“21世纪海上丝绸之路”倡议提出前，中国海洋渔业企业在大多数沿线入渔国具有技术垄断优势，从而对当地的渔业资源开发产生了挤出效应：中国渔业企业占据渔业全产业链上游，抢占入渔国市场份额，使本土渔业企业被动处于产业链下游，削弱其市场竞争力和盈利能力，这也是很多沿线国家对中国开设境外经贸合作区抱有抵触情绪的原因之一。“一带一路”倡议确保了远洋渔业合作中各国双赢、多赢的发展目标。因此，中国在实践渔业技术互促共享时，需注重以下几点：一是凭借在渔业养殖以及加工方面的技术优势，健全对外科技服务体系，广泛开展技术服务咨询和培训，如位于南海沿岸的东盟地区开展了中国—菲律宾渔业技术培训交流活动、中越北部湾渔业资源联合增殖放流与养护等渔业技术交流活动；二是提升远洋渔业科技支撑能力，采取科研联合的战略，加快建立与渔业技术的科技成果转化平台和资金支持机制，与“21世纪海上丝绸之路”沿线国家加强海洋渔业科研合作，如中国东盟海洋科技合作论坛平台的建设，推动了广东与东盟各国共享海洋渔业科技成果；三是建全对外渔业与海洋科学等相关涉海专业的多层次、专业化的海洋渔业人才培养体系，在入渔地开展捕捞和养殖技术、冷藏技术、后勤保障技术的服务与培训，提供技术操作的实施场地。

三、渔场合作空间外溢为导：全球化

新时代的海洋渔业国际合作将从分散的企业自行布局转变成为全球化的战略格局。国际渔业的合作空间是指渔业活动的地理空间结构。“21世纪海上丝绸之路”倡议的实施，使海洋渔业合作的空间范围从公海、专属经济区向领海、陆地扩展，实现渔业合作空间的外溢。在以往的海洋渔业合作中，存在一些合作企业间恶性竞争和过度开发入渔国资源等问题，不利于中国远洋渔业的可持续生产。“21世纪海上丝绸之路”倡议从国家的层面上，将进一步明确企业进行海洋渔业合作的布局调整和合作领域。中国在与日韩等东北亚地区国家的合作中，应加大对先进海洋渔业技术的引入力度和海洋渔业品牌的并购力度，建设经贸合作园区以扩展新市场；在东盟、南亚地区，应通过建设远洋渔业基地，促进劳动密集型产业的转移，打造境外水产品生产加工基地；在非洲地区，可结合“中非工业化”的合作计划，打造非洲工业化和渔业现代化基地，做好先进码头和渔船的建设工作；而在与南半球国家的合作中，由于处于不同半球的国家存在渔汛期与休渔期的差异，有助于实现不同季节鱼类品种的需求互补。例如青岛与挪威建立的海上养殖平台，具有生态环境

In the new era, the international cooperation of marine fishery will transform from monopolizing fishery technology to mutually promoting and sharing fishery technology. The progress of fishery technology is an important driving force for deepening regional fishery cooperation. Transforming new marine fishery technology into productivity and industrial production timely will effectively improve the output and benefit of fishery and further enhance the added value and market competitiveness of aquatic product processing. Before the "21st Century Maritime Silk Road" Initiative was introduced, Chinese marine fishery enterpeises has a technological monopoly advantage in most fishing countries along the lines, which cuases the crowding-out effect in local development of fishery resources. It means that Chinese fishery enterprises occupy the upstream of the whole industrial chain of fishery and grab share of the local market, making the local fishery enterprises passive in the downstream of the industrial chain and reducing their market competitiveness and profitability. Thus, this becomes one of the reasons why many countries along the lines are opposed to China's opening of overseas economic and trade cooperation zones. However, the Belt and Road Initiative ensures win-win and all-win development for all countries in pelagic fishery cooperation. As a result, China needs to pay attention to the following aspects when sharing its fishery technology: First, China should rely on its technology advantage in fishery breeding and processing to improve service system of science and technology and launch technological consulting and training activities extensively. At present, China has carried out series of communicative activities in the ASEAN region along the South China Sea, such as China-Philippines fishery technological training and communicative activity, and China-Vietnam Beibu Gulf fishery resources reproduction, releasing and breeding technology exchange activity. Second, China should improve the supporting capacity of pelagic fishery science and technology, take joint research strategy, accelerate the building of a platorm to transform fishery scientific and technological achievements and the funding mechanism. China should also strengthen the collaboration on marine fishery research with countries along the lines. For example, the building of China-ASEAN Marine Science Cooperaton Forum has made a great contribution to the sharing of marine fishery scientific and technological achievements between Guangdong Province and ASEAN countries. Third, China should establish a multi-level and specialized personnel training system of marine fishery for foreign fishery, marine science and other marine-related fields, provide services and training in fishing, breeding, cold storage and logistics techenologies in the fishing areas, and provide sites for technological training.

3.Globalizing the Cooperative Space of Fishing Grounds

In the new era, the layput of the international cooperation of Marine fishery will transform from a decentralized one allocated by enterpeises to a globalized one. The cooperative space of international fishery refers to the geospatial structure of fishery activities. The implementation of the "21st Century Maritime Silk Road" Initiative has expanded the scope of maritime fishery cooperation from the high seas and exclusive economic zones to territorial waters and lands, thus realizing the spillover of fishery cooperative space. In the past, there were some problems such as vicious competition between cooperative enterpeises and over-exploitation of resources of fishing countries in marine fishery cooperation, which are not conducive to the sustainable production of China's pelagic fishery. Therefore, the "21st Century Maritime Silk Road" Initiative will further clarify the layout adjustment and cooperation areas in marine fishery cooperation among enterprises at the national level. In the cooperation with Japan and South Korea and other northeast Asian countries, China should strengthen the introduction of advanced marine fishery technology and promote the merger and acquisition of marine fishery brands, and build economic and trade cooperation parks to expand new markets. In the cooperation with the ASEAN and South Asian regions, China should speed up the transfer of labor-intensive industries by building pelagic fishery bases, so as to build production and processing bases of

友好、建设技术先进的特点，弥补了中国海洋工程科研和施工的多项空白。合作空间范围的广泛意味着资源可获得性的提高。“21世纪海上丝绸之路”是中国与其他国家进行海上贸易与交流合作的重要航线通道，同时也是海洋渔业赖以生存的空间载体。海洋渔业在空间布局中并不均衡，表现出空间异质性。中国需充分发挥在海洋渔业人才与技术上的比较优势，与海洋渔业资源丰裕的发展中国家深入合作，优化海洋渔业资源配置。

四、渔业开放型格局拓展为先：层次化

新时代的海洋渔业国际合作将从基于单一产业链、起到带动效应的经营方式转变成为具有整合效应的一体化发展模式。海洋本身具有开放属性，外向型的沿海地区在经济全球化背景下，应当积极提升自身国际海洋经济合作的层次。随着科技水平的提高以及运输成本的下降，海洋渔业在全球范围内的合作将会更加频繁、多元。在“21世纪海上丝绸之路”背景下，海洋渔业国际合作应在实现规模扩张、技术优化和产业升级的同时，以各海域的远洋基地为枢纽，促进形成完整的远洋产业链及较大辐射范围的综合配套能力。例如舟山国家远洋基地建设集团在浙江省舟山市建立了第一个国家级远洋渔业基地。同时还在南美洲国家乌拉圭设立了首个海外基地，并计划到“十三五”末，建成9座远洋渔业公共服务码头，2个境外远洋渔业基地。作为传统渔业合作配套产业的船舶制造、冷链物流等行业的转型与升级，受其行业内技术进步的影响较大，而受渔业的带动性有限。新时代开放型渔业体系应当充分发挥其产业网络中的整合效应，更加注重渔业资源与信息技术资源的配置利用，发掘相关产业的发展潜力，最终实现在开放型渔业体系下不同产业的层次化发展格局。

五、践行生态化理念为重：持续化

新时代的海洋渔业国际合作将由以往的粗放型资源利用模式转变为环境友好型的发展模式。人类经济活动作用于海洋，使得海洋生态系统与经济系统耦合于渔业生产活动中，二者相互依存、相互制约。实践中，工业废水、城市污水等超标排放入海造成海洋污染，而过度捕捞、过密养殖等也会造成生态系统失衡，渔获物呈现小型化、低值化、低龄化趋势。目前，全球海洋渔业治理已出现了保护海洋生态系统的新趋势，基于生态系统的海洋渔业管理是重要的管理理念与方式。中国对海洋渔业资源的生态化利用行动已提上日程：在海洋捕捞方面，逐步对渔业捕捞船只等装备进行革新，向低碳化发展，开发、引进先进技术，减少碳排量。远洋渔业要实现绿色发展，必须将资源利用减量化，并改善远洋渔获品种，同时限制远洋渔业渔船的规模数量。《“十三五”全国远洋渔业发展规划》明确提出“十三五”期间远洋渔业企业数目“零增长”的发展目标；在国际海水养殖方面，则需

overseas aquatic products. In Africa, China can combine fishery with the "China-Africa Industrialization" cooperation project to construct modern African industrial and fishery bases and endeavor to build advanced docks and fishing boats. While when cooperating with countries in the southern hemisphere, China should take into account the difference of fishing seasons between different hemispheres, realizing that the difference can meet the complementary needs of fish species. For example, Qingdao and Norway co-established a mariculture platform featured with eco-friendliness and advance technology, which fills many gaps in the scientific research and development of China's Marine engineering. In fact, a larger cooperative space means more resources are available. The "21st Century Maritime Silk Road" is an important route for China to conduct maritime trade and cooperation with other countries, and it also provides a survival space for marine fishery. At present, the spatial distribution of marine fishery is imbalanced. China needs to give full play to its comparative advantages on marine fishery talents and technologies and deepen cooperation with developing countries with abundant marine fishery resources. In doing so, the allocation of marine fishery resources can be optimized.

4.Forming a Hierarchical Development Layout of the Open Fishery

The international cooperation of marine fishery in the new era will transform its business mode from the one based on a single industrial chain and the driving effect to a mode based on integrated development. Openness is a nature of marine. In the context of economic globalization, export-oriented coastal areas should actively upgrade their international cooperation in marine economy. With the development of science and technology and the decrease of the cost of transportation, the cooperation of marine fishery in the global scope will be more frequent and diversified. Under the background of the introduction of the"21st Century Maritime Silk Road", international cooperation in marine fishery on the one hand should realize scale expansion, technological optimization and industrial upgrading, on the other hand should take the pelagic bases in various seas as hubs to promote the formation of a complete pelagic industrial chain and the development of comprehensive supporting facilities with strong radiating functions. For example, Zhoushan National Pelagic Fishery Base Development Group has established the first state-level pelagic fishery base in Zhoushan City, Zhejiang Province, and the first overseas fishery base in Uruguay. It plans to build 9 public service wharfs and 2 overseas pelagic fishery bases by the end of China's 13th Five-Year Plan (2016-2020) period. In the past,the transformation and upgrading of ship manufacturing, cold chain logistics and other supporting industries of traditional fishery cooperation were mainly driven by the technological progress in corresponding industries rather than the development of fishery. The open fishery system in the new era should give full play to the integration effect of its industrial network, pay more attention to the allocation and utilization of fishery resources and information technology resources, explore the development potential of related industries, and finally form a hierarchical development layout of different industries in the open fishery system.

5.Implementing the Principle of Eco-friendliness Constantly

The international cooperation of marine fishery in the new era will transform its resource utilization mode from the previous extensive one to an environmental friendly one. Human's economic activities act on the ocean, so that marine ecosystem and economic system interact with each other in fishery production activities. They depend on and restrict each other. In practice, excessive discharge of industrial waste and urban sewage into the sea has caused marine pollution, while over-fishing and extensive aquaculture have also led to ecological imbalance, which make catches minimal in size, low in value and age. At present, global marine fishery management has emerged a new trend of protecting marine ecosystem. Based on ecosystem, the marine fishery management becomes an important

要积极推进碳汇渔业，发展生态化深水网箱以及工业化养殖方式等。

六、可持续合作开发为本：行动化

新时代的海洋渔业国际合作将从单家企业粗放式的经营管理理念转变成为蓝色可持续的经营管理理念。渔业是典型的资源型产业，可持续地开发利用海洋渔业资源并维护生态环境，是渔业实现可持续发展的根基。全球气候变化使得越来越多的鱼类游向更冷、更深的高纬度海域，由此将致使全球渔民捕捞作业的版图发生改变，发达国家增加渔业运输成本，而中低纬度的发展中国家则会出现重要食物来源逐步消失的情况，甚至面临当地食物供应安全危机。此外，渔业发展还要避免“竭泽而渔”的作业方式。中国应以“21世纪海上丝绸之路”为契机，加快转变渔业发展理念，促进远洋渔业从依靠规模扩张的粗放式发展模式向提升质量效益的蓝色可持续发展模式转变。如2017年成立的远洋渔业国际履约研究中心，为提高远洋渔业的资源利用效率，提供了智库咨询服务功能。在远洋渔业的开发过程中，中国应加强对渔业资源的调查、保护、监控和恢复，加强对海洋环境的观测和监控，在满足国内对海洋资源需求的同时，实现国际海洋资源的可持续利用。

七、创新渔业“一路向海”战略推进：提升化

改革开放后，中国的海洋渔业经历了从“捕捞为主”向“以养为主”的转变，随着水产品市场开放，中国渔业产量连年居于世界首位，并维持良好的发展势头。如今，对于传统产业的转型升级，要加快海洋捕捞业结构调整，约束捕捞强度，制定相应标准，并及时评估监测；加强海水健康养殖与养殖多样化的发展，实施海洋渔业资源与生态环境保护工程，维持生物多样性；同时也要大力发展战略新兴产业，积极推进国际合作发展，提高中国在海洋渔业国际政策制定中的话语权，进而全面提升经略海洋的国际竞争力。

在海洋资源的开发战略中，应积极发展海洋渔业的高新技术，大力推进远洋渔业资源的开发，拓展海洋渔业的可持续发展空间。在海洋渔业经营战略中，中国应打造渔业全产业链条，集成资源优势，组成联合舰队“走出去”，建设“捕捞-养殖-种苗-加工”为一体的现代渔业企业，而非过去以捕捞为主的单一渔业生产方式，促进业务多样、产业集约的多元化发展。在海洋渔业的全球布局战略中，国家应注重进行点、线、面的立体规划，推动“以点带面、连点成线”“陆海统筹”的战略布局，将开放型渔业格局从过去企业自主布局的“点状格局”，发展形成面向全球市场需求、境外远洋基地布局合理、配套服务体系齐全的“线状格局”和“面状格局”，通过“一路向海”构建新时代开放型现代渔业体系。

（原文刊发于《中国国土资源经济》2019年第8期，有删减）

management concept and a effective management method. China has put the ecological utilization of marine fishery resources on the agenda. In terms of marine fishing, China will gradually renovate fishing vessels and other equipment, develop and introduce advanced technologies to reduce carbon emissions. In order to achieve green development in pelagic fishery, China will reduce the utilization of resources, improve the quality of the catches, and limit the size and number of pelagic fishing vessels. The 13th Five-Year Plan for the Development of China's Pelagic Fishery clearly puts forward the development goal of "zero growth" in the number of pelagic fishery enterprises during the 13th five-year plan period. Besides,it points out that China should develop international mariculture by promoting carbon sink fishery, ecological deep-water cage breeding and other industrialized breeding.

6.Realizing the Sustainable Development of Marine Resources

The international cooperation of marine fishery in the new era will abandon the previous extensive management model adopted in a single enterprise and embrace a blue and sustainable management model. Fishery is a typical resource industry. Exploiting and utilizing marine fishery resources in a sustainable way and maintaining the ecological environment are the foundation of the sustainable development of fishery. As global climate changes, more and more fish swim to colder, deeper waters in areas of high latitudes, which will change the landscape of global fishing, increase developed countries' costs of fishing transportation, and force the developing countries in low latitudes to face the shortage of important food, even to face the security crisis of local food supply. In addition, to develop fishery should avoid the operation which "catches fish by draining the pond". China should take the "21st Century Maritime Silk Road" as an opportunity to accelerate the transformation of the development concept of fishery and promote the transformation of pelagic fishery from adopting an extensive development model relying on scale expansion to embracing a blue and sustainable development model that can improve quality and efficiency. For example, the International Compliance and Research Center for Pelagic Fisheries is established in 2017 to provide think tank consulting service so as to improve the efficiency of resource utilization in pelagic fishery. In the development of pelagic fisheries, China should strengthen the investigation, protection, monitoring and restoration of fishery resources, enhance the observation and monitoring of the marine environment, and realize the sustainable utilization of international marine resources while meeting its domestic demand for marine resources.

7.Promoting the Fishery Strategy of "Toward the Sea"

After the reform and opening up, China's marine fishery has undergone a transformation from "centering on fishing" to "centering on breeding". With the opening of the aquatic product market, China's fishery output ranks first in the world for several years and maintains a good development momentum. At present, China needs to transform and upgrade the transitional fishery by speeding up the structural adjustment of marine fishing, restricting fishing intensity, formulating corresponding standards, and assessing and monitoring the results regularly. China should also promote green aquaculture and the diversification of aquaculture, launch and implement marine fishery resources and ecological environment protection projects, which are conducive to biodiversity. At the same time, China should endeavor to develop emerging industries with strategic significance, actively promote international cooperation, enhance its discourse power in the formulation of international policies on marine fishery, thus comprehensively improving China's international competitiveness in marine management.

EVALUATION ON EFFECT OF CHINA'S PELAGIC FISHERY DEVELOPMENT AND STUDY ON TREND OF ITS TRANSFORMATION AND UPGRADING

我国远洋渔业发展成效评价及转型升级趋势研究

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远洋渔业是全球渔业大国资源利用的重要领域，海洋鱼类在合理开发的前提下可满足约300亿人的蛋白需求。远洋渔业对于中国是放在很其重要的战略高度，是建设“海洋强国”、实施“走出去”战略和“一带一路”倡议的重要组成部分。近年来我国远洋渔业经济发展迅速，水产品总产量连续27年位居世界第一，水产品进出口贸易总额占农产品进出口贸易总额的比例超过20%，渔业从业人员1400多万人，占世界渔业从业人员总数近1/4左右，这些成为奠定我国在全球渔业发展地位的基础。在新的发展形势下，随着“一带一路”建设深入开展，农业对外合作稳步推进，我国远洋渔业加快转型升级成为发展趋势。以下探讨我国远洋渔业发展成效，面临机遇条件，研究其转型趋势。

我国远洋渔业发展整体情况

我国是世界上最大、最重要的海洋与渔业国家之一，海岸线1.8万公里，岛岸线1.4万公里，与东亚、南亚多个国家海洋临界。远洋渔业自1985年起步以来，持续较快发展，尤其是“十二五”期间取得了跨越式发展。装备水平和整体实力显著提升，在“十三五”阶段，在远洋渔业企业、作业船舶、生产经营规模增长迅速，作业海域涉及42个国家（地区）的管辖海域和太平洋、印度洋、大西洋公海以及南极海域，并在装备上更新建设了一批专业化、标准化、现代化的远洋渔船，到2018年，公海作业渔船占世界公海作业渔船的7%左右；产量占世界公海渔业产量的15%左右，船数和产量均居世界前列。远洋渔业企业发展势头良好，综合实力逐渐提升，国际竞争力持续提高，中国获得的海洋权益不断扩大，为中国外向型经济加速发展助力，有效延伸了中国的海洋经济。由此可以看到，发展远洋渔业不仅可以促进经济发展，更能增强中国综合实力，维护国家海洋权益，提升中国在全球渔业资源开发利用舞台中的话语权。

海洋经济在中国国民经济发展中占据重要地位，经历了一系列艰难过程。改革开放后，我国就开始积极探索远洋渔业的发展路子，80年代初就成立多个调查组，分赴各国进行实地考察，做了大量的筹备工作。1983年5月召开的全国海洋渔业工作会议上，原国务院副总理万里提出“远洋渔业在近期内要有突破”。1985年中央5号文件又出台了多项扶持远洋渔业的优惠政策，在国家的大力支持下，于1985年3月组成了一支远洋渔业船队，开赴大西洋西非海域渔场作业，实现了我国远洋渔业“零”的突破。经过努力，我国远洋渔业从无到有、从小到大，到如今已拥有远洋渔船二千多艘，年产水产品200多万吨，同40多个国家开展渔业合作的大产业，已在全球建立100多个渔业代表处、渔业合资企业和后勤补给基地等。

在快速发展的同时，我国远洋渔业也面临一系列的挑战，如保护海洋生态环境、可持续资源利用成为全球关注问

Pelagic fishery is of great strategic importance to China and it is an important part of building a "maritime power", and implementing the "Going out" Strategy and the "Belt & Road" Initiative. In recent years, China's pelagic fishery economy has seen rapid development, with total output of aquatic products ranking first in the world for 27 consecutive years, total import and export trade of aquatic products accounting for over 20% of that of agricultural products, and over 14 million fishery practitioners taking up nearly 1/4 of the world's total, all of which have become the foundation that establishes China's status in global fishery development. Under the new development situation, along with the in-depth implementation of the "Belt & Road" construction and the steady advance of agricultural foreign cooperation, the accelerated transformation and upgrading of China's pelagic fishery has become a development trend. The following is a discussion of the development effect, the opportunities and conditions of China's pelagic fishery, as well as a study on its transformation trend.

I. Overall situation of China's development of pelagic fishery

China is one of the largest and most important marine and fishery countries in the world, with a coastline of 18,000 km and an island coastline of 14,000 km, bordering the oceans of many countries in East Asia and South Asia. Since its inception in 1985, China's pelagic fishery has seen a continuous and rapid development. Especially during the "12th Five Year Plan" period, a great leap-forward development was achieved, with equipment level and overall strength improved significantly. During the "13th Five-Year Plan" period, scale of pelagic fishery enterprises, operating vessels, and production and operation grew rapidly, with operational sea areas covering the sea areas under the jurisdiction of 42 countries (regions), the Pacific, the Indian and the Atlantic high seas, as well as the Antarctic sea areas, and a number of specialized, standardized and modern pelagic fishing vessels were upgraded and built in terms of equipment. By 2018, China's fishing vessels operating on the high seas accounted for about 7% of the world's total; production accounted for about 15% of that of the world's high seas fishery, with vessel quantity and production ranking the top in the world. There has been a good development momentum, gradually improved comprehensive strength and continuously enhanced international competitiveness in pelagic fishery enterprises, and China's marine rights and interests have kept expanding, all of which have fueled the accelerated development of China's export-oriented economy and effectively extended China's marine economy. It can be seen that the development of pelagic fishery can not only promote economic development, but also enhance China's comprehensive strength, safeguard China's maritime rights and interests, and give China a greater say on the stage of development and utilization of global fishery resources.

Marine economy has occupied an important position in the development of China's national economy and has gone through a series of difficult processes. After the reform and opening up, China began to actively explore the development path of pelagic fishery. In the early 1980s, a number of investigation teams were set up to conduct field visits in various countries and made a lot of preparatory work. At the National Working Conference on Marine Fishery held in May 1983, Wan Li, former Vice Premier of the State Council, proposed that "there must be a breakthrough in pelagic fishery in the near future". In 1985, a number of preferential policies were issued in the No. 5 Document of the Central Government to support pelagic fishery. With the great support of the nation, in March 1985, a pelagic fishing fleet was formed to carry out operation on the Atlantic West Africa fisheries, breaking through from "zero" operation in China's pelagic fishery. Through efforts, China's pelagic fishery has grown from scratch, and from small scale to large scale. Today, it has more than 2000 pelagic fishing vessels, with an annual output of more than 2 million tons of aquatic products. It has established fishery cooperation with over 40 countries, and set up more than 100 fishery repeesentative offices, joint ventures and logistics supply bases around the world.

题。全球所有公海基本纳入区域渔业管理，管理要求日益严格；沿海国资源环境保护意识不断增强，合作成本不断提高，这些都表明远洋渔业管理正在发生重大的变革，并且在发展模式上存在一定的短板，部分远洋渔业企业规模小、实力弱、管理不规范、安全发展意识不强，短期逐利倾向较重，产业结构仍相对单一，产业链短，科技支撑和综合开发能力等仍然偏低，综合渔业基地建设相对滞后，国内市场开发不充分。所以要充分认识到挑战中也存在机会，在国家不断增强的经济实力、“一带一路”战略的实施以及国内外水产品市场对优质水产品日益增长的需求等方面利好因素下，为远洋渔业发展提供了新机遇，未来十年将是我国远洋渔业发展的关键转型期，更是迈向远洋渔业强国的重要机遇期。

我国远洋渔业向新型发展方式转型的重点

中国俨然已成为远洋渔业大国，在渔业规模、渔船分布、科技创新、国际交流和人才培养等方面都有长足的进步。在国家推进渔业产业结构调整、促进产业升级的大背景下，我国远洋渔业的重点是实施“科技引导、全球合作”，必须依靠科技兴渔，占领远洋捕捞技术创新市场，调整渔业作业结构和布局等，提高生产效率和经济效益。我国未来将以渔业可持续发展为目标，以维护国家远洋渔业权益、稳定渔业周边秩序为重点，深入加强远洋外交以及国际渔业合作；与重要渔业国家保持密切联系，处理好国际间竞争与合作的关系；切实加强传统渔场管理，开发新渔场，发展渔业“走出去”战略，拓展中国远洋渔业的全球发展空间和竞争力，合理布局中国远洋渔业的生产规模和方式。

一是延伸渔业产业链，发挥我国渔业比较优势，促进海洋捕捞、水产养殖、渔业产业链上下游各环节优势互补。比如，周边国家越南、菲律宾等国也是捕捞渔业大国，但其捕捞渔船、装备、技术等相对落后，浙江、福建、广西等海洋渔业主产区拥有较高捕捞技术水平；南亚的印度、东盟成员国印度尼西亚、泰国、越南、孟加拉等国家也是世界水产养

While growing rapidly, China's pelagic fishery is also facing a series of challenges. For example, the protection of marine ecological environment and sustainable resource utilization have become a global concern, all the high seas in the world are basically incorporated into regional fishery management, with increasingly strict management requirements; awareness of coastal countries on resources and environment protection has been continuously enhanced, and cooperation costs have kept growing, all of which have indicated that major changes are taking place in the management of pelagic fishery. In addition, there are some shortcomings in the development mode. Some pelagic fishery enterprises are small in scale, weak in strength, unregulated in management, poor in awareness of safe development, strong in tendency of seeking short-term profits, relatively simple in industrial structure, short in industrial chain, weak in scientific and technological support and comprehensive development capacity, relatively backward in the construction of comprehensive fishery base and inadequate in domestic market development. Therefore, it is important to fully understand that there are also opportunities in the challenges. Under the favorable conditions of China's increasingly strong economic strength, the implementation of the "Belt & Road" Strategy and a growing demand for high quality aquatic products in domestic and foreign aquatic products market, new opportunities have been provided to the development of pelagic fishery. The next decade will be a crucial transitional period for China to develop pelagic fishery, and also an important period of opportunity for China to become a power in pelagic fishery.

II. Focus of transformation of China's pelagic fishery towards a new development mode

China has become a major country in pelagic fishery, making great progress with regard to fishery scale, fishing vessel distribution, S&T innovation, international exchange and personnel training. Under the background that China is advancing fishery restructuring and promoting industrial upgrading, the focus of China's pelagic fishery is to implement "S&T guidance, global cooperation". China must develop fishery, occupy the pelagic fishery technological innovation market, adjust the structure and layout of fishery operations, and improve production efficiency and economic benefits by S&T. In the future, with sustainable development of fishery as the goal, and safeguarding the nation's rights and interests in pelagic fishery and stabilizing fishery peripheral order as the focus, China will further strengthen its pelagic diplomacy and international fishery cooperation; maintain close ties with important fishery countries and handle well relationships in international competition and cooperation; effectively strengthen the management of traditional fisheries, develop new fisheries, implement the fishery "Going out" Strategy, expand the global development space and competitiveness of China's pelagic fishery, and rationally lay out the production scale and mode of China's pelagic fishery.

殖大国，东南亚国家具有气候适宜、塘租、劳动力成本低优势，水产养殖业仍属于劳动密集型产业，广东、海南、江苏等地的水产养殖业逐渐呈现技术集约、生态健康等特点；在产业链上游的育种研发，产业链下游的冷链仓储、物流和加工等环节的优势互补，拓展与周边国家在渔业资源、产业链上下游与产品结构多领域合作。

二是调整远洋渔业产业结构，优化国际渔业空间布局，促进我国渔业在国际贸易的互补性。通过引进新技术和新的管理模式淘汰落后的生产和技术，形成新的经济增长点，从而为经济的进一步发展提供动力。我国远洋渔业发展将从传统捕捞为主的简单生产模式向加工、冷冻一体化作业模式转变，提高渔获物附加值；转变原先以公海自由捕捞为主的发展模式，积极开展与岛国或沿岸国的入渔合作，拓展各大洋的渔业可捕空间。在渔业消费贸易上，以国内、国际市场需求为导向，调整与其他国之间的水产品进出口结构，增强我国水产品国际竞争力，同时以“一带一路”建设等外向合作为契机，更好发挥现有自贸区功能，拓展新自贸区建设。调整我国与其他国家之间的水产品进出口结构、渔业产业链环节与生产要素价格优劣势互补和渔业相关产业的投资；积极拓展周边地区自贸区建设的可能性，以远洋渔业产业发展带来水产品的国际贸易竞争力。

三是推进我国远洋渔业现代化、可持续化发展。当前，在我国渔业进入从传统渔业向现代渔业转型的新的关键时期，需要深入研究解决发展中出现的各类新老问题，重点是深入推进渔业现代化管理，需要提高渔业组织化程度，培育和建立适应渔业各产业转点的新的渔业合作主体问题；实现渔业现代化，需要加快科技进步，运用高新科技装备来改造传统渔业问题；压缩捕捞渔业强度，需要开辟多渠道安排新老渔业劳力出路问题；推进渔港转型，需要建立以渔港经济为依托，一二三产业融合发展的新经济模式，让渔港渔村焕发新活力问题；完善各类渔业“走出去”引导政策，在渔船升级改造走向深海水养殖、海外地区海外水产养殖基地建设、海上丝绸之路沿线国重要海洋渔港等设施建设上，给予

First, extend the fishery industrial chain, give play to the comparative advantages of China's fishery, and promote the complementary advantages in marine fishing, aquaculture and upstream and downstream sectors of fishery industrial chain. For example, neighboring countries such as Vietnam and the Philippines are also major fishing countries, but their fishing vessels, equipment and technology are relatively backward, while main marine fishery production areas such as Zhejiang, Fujian and Guangxi enjoy more advanced fishing technology; India of South Asia and ASEAN members like Indonesia, Thailand, Vietnam and Bangladesh are also the world's major aquaculture countries. Southeast Asian countries boast the advantages of agreeable climate, low pond rent and low labor costs, therefore, their aquaculture industries are still labor-intensive, while aquaculture industry in Guangdong, Hainan and Jiangsu has gradually presented the characteristics of technology-intensive and ecologically healthy; breeding R&D has been carried out in the upstream of the industrial chain, with complementary advantages in the cold chain warehousing, logistics and processing in the downstream of the industrial chain. Cooperation with surrounding countries in multiple areas such as fishery resources, industrial chain upstream and downstream and product structure has been expanded.

Second, adjust the structure of pelagic fishery, optimize the spatial layout of international fishery, and promote the complementarity of China's fishery in international trade. By introducing new technologies and new management modes to eliminate backward production and technology, new economic growth points will be formed, thus providing impetus for further economic development. The development of China's pelagic fishery has transformed from the simple fishing mode, which is mainly based on traditional fishing, to the integrated operation mode of processing and freezing, which has increased the added value of catches; transform the original development mode dominated by free fishing on the high seas, actively carry out fishing cooperation with island countries or coastal countries, and expand the fishing space in each ocean. In terms of fishery consumption trade, guided by the domestic and international market demand, China will adjust the import and export structure of aquatic products with other countries, enhance its international competitiveness of aquatic products, and take "Belt & Road" construction and other external cooperation as an opportunity to give better play to the existing functions of the free trade zone and expand the construction of the new free trade zone. China will adjust the import and export structure of aquatic products between China and other countries, the complementary advantages and disadvantages of the fishery industrial chain sectors and the production factor price, and the investment in fishery-related industries; actively expand the possibility of constructing free trade zones in the surrounding areas, bringing international trade competitiveness of aquatic products with the development of pelagic fishery.

政策支持引导，在国内消费市场要适应市场需求，让消费者吃好鱼、吃健康鱼、吃放心鱼，调整优化生产结构和生态环境；发展增殖渔业，强化生态环境的整治和渔政管理，提高增殖放流效益，善于开拓新思路，制定新措施，通过改革解决。

未来远洋渔业发展趋势及对我国发展的促进

远洋渔业呈现出显著的全球产业链布局特征。经济全球化促进了区域间的经济交流与合作，生产过程中的专业化分工日益强化，形成了以产业链、价值链为纽带的全球生产网络。从全球生产与贸易来看，发达国家通过全球外包，利用发展中国家廉价劳动力来降低生产成本，以满足本国消费需求，使发展中国家成为远洋水产品的主要供应国，而发达国家则成为主要进口国和消费者，在远洋渔业全球产业链中扮演了主导者的地位。作为发展中国家，中国远洋渔业虽取得了显著成绩，但无论是在资源占有、捕捞生产，还是在物流运输和加工贸易环节，中国都未能成为远洋渔业全球产业链中的核心角色，培育和增强远洋渔业产业竞争力，提升在全球产业链布局中的地位，是未来一个时期中国远洋渔业发展的核心战略选择。在发展趋势判断上主要考虑政策制度、技术条件以及组织方式。

在制度上，全球远洋渔业管理制度以及全球远洋渔业资源管理国家的参与水平，构成影响一国远洋渔业参与到全球产业链的制度因素。其中，全球远洋渔业管理及其相关制度包括以《联合国海洋法公约》为代表的海洋开发综合管理制度、国际性远洋渔业管理制度、区域性和单鱼种远洋渔业管理制度以及沿海资源国关于境外国家渔船进入本国专属经济区从事渔业生产的相关管理制度等，形成了对远洋渔业国家渔业生产及资源开发行为的指导和约束。全球远洋渔业资源管理国家参与水平则决定了一国在全球远洋渔业生产及资源开发管理事务中的权利和角色，进而影响一国在远洋渔业全球产业链布局中的角色和地位。因此未来我国远洋渔业将会深度参与全球治理和制度制定，提升大国影响力。

从技术方面，远洋渔业生产经营主体对远洋渔业相关技术的掌握程度，影响到渔业资源调查与评估、渔船设备性能改进、捕鱼精准度，以及即时加工与运销等各个环节，一定程度上决定着其在全球远洋渔业格局中的地位。日本、欧盟、美国等远洋渔业国家或地区之所以能够长期处于全球远洋渔业产业链中的领导者地位，重要原因就在于能够围绕核心优势持续开展技术创新。随着全球范围内渔业资源萎缩所带来的远洋渔业日趋激烈的竞争格局，为进一步建立或保持竞争优势，各经济体必将继续加大投资，研发新技术。因此我国将在远洋渔业发展上注重科技创新，提供坚强后盾。可在一些海洋产业的优势地区如深圳开展示范。《粤港澳大湾区发展规划纲要》及《中共中央国务院关于支持深圳建设中国特色社会主义先行示范区的意见》的发布进一步明确深圳在全国发展的先行先试。支持深圳加快建设全球海洋中心城市，对深圳如何加快建设全球海洋中心城市提出了具体要求。深圳作为粤港澳大湾区的四大中心城市之一和南海之滨的特大经济中心城市，拥有约1997平方公里的陆域面积，1145平方公里的海域面积和超过260公里的海岸线，既是粤港澳大湾区的核心引擎，也是21世纪海上丝绸之路的重要枢纽城市。深圳有涉海企业7300多家，约占全省的24%，成为深圳经济发展的重要支撑。2018年深圳海洋生产总值约2327亿元，同比增长4.63%，海洋经济生产总值占全市GDP的9.6%，远洋渔业发展全省领先。深圳推出了向海图强的“十二个一”工程，即按程序组建海洋大学，建设国家深海科考中心，探索设立国际海洋开发银行，成立海洋科学研究院，打造全球海洋高端智库，建设国际金枪鱼交易中心，组建海工龙头企业集团，壮大海洋新兴产业发展基金，加快建设海洋新城，探索设立深圳海事法院，规划建设深圳海洋博物馆和海洋科技馆，办好中国海洋经济博览会。

从组织方面，远洋渔业企业规模成为影响一国参与到全球产业链的重要因素，是否拥有在全球范围内具有强大影响力和控制力的远洋渔业跨国企业，以及此类跨国公司的规模和数量，在一定程度上决定着一国在远洋渔业全球产业链布局中的地位。以远洋金枪鱼产业为例，中国台湾丰群水产贸易公司和新加坡三海公司等跨国公司在该产业发展过程中影响巨大，对中国台湾和新加坡的远洋渔业发展发挥了重要作用。其中，新加坡三海公司是一家垂直一体化经营公司，作为金枪鱼加工原材料供应商，拥有颇具规模的捕捞船队和广泛分布于中国及南美洲和非洲一些国家的金枪鱼加工厂，并在全球范围内设立了多个办事处、销售点、分公司和办公室等组织机构，凭借雄厚的实力与全球多家金枪鱼生产经营企业建立了稳定的供应链合作关系。中国台湾丰群水产贸易公司则属于专业的后勤贸易服务公司，是全球最大的金枪鱼贸易服务商，公司通过建立覆盖全球的服务网络，为上下游客户提供鱼货收购、鱼货转载、渔船代理、海上补给和加油以及基地服务等具有竞争力的服务内容，将海洋捕捞生产与陆地加工、销售环节有效衔接，形成利益互惠网络，形成长远的合作关系，以此打造公司的核心竞争力，而金枪鱼的捕捞和加工，公司并不直接参与，从而降低了低效成本的投入。

我国远洋渔业要顺势而为，提升远洋渔业在全球产业链布局中的竞争能力，加强远洋水产品市场信息服务平台建设、建立健全远洋水产品国际市场价格预警预报系统，积极培育远洋水产品国内市场；增强全球远洋渔业资源调查与评估能力、提升远洋渔业装备技术水平、提高远洋渔业从业人员素质、推进远洋渔业海外基地建设、完善远洋渔业冷链物流体系、增强远洋渔获物加工能力、创新远洋渔业企业资金支持方式，以及充分挖掘远洋新鱼种开发潜力；增强全球远洋渔业管理适应和参与能力、调整和完善远洋渔业支持政策，以及培育远洋渔业龙头企业等。

Third, promote the modernization and sustainable development of China's pelagic fishery. At present, in the new critical period when China's fishery transforms from traditional fishery to modern fishery, we need to thoroughly study and solve various new and old problems in development, with the focus on further promoting the modern management of fishery, and we need to improve the organization level of fishery, and foster and establish new fishery cooperation subjects that adapt to the characteristics of various industries in fishery; to achieve modernization of fishery, we need to speed up scientific and technological improvement, and address traditional fishery issues with high-tech equipment; to reduce the fishing intensity, we need to develop multiple channels to arrange new and old fishing labor; to promote the transformation of fishing ports, we need to establish a new economic mode of integrated development of primary, secondary and tertiary industries based on fishing port economy, so that the fishing ports and fishing villages can be rejuvenated; we need to perfect the "Going out" guiding policies for various types of fisheries. Policy support should be given to upgrading and transformation of fishing vessels toward deep-sea aquaculture, construction of overseas aquaculture bases in overseas regions, and construction important marine fishing ports along the Maritime Silk Road. In the domestic consumer market, we must adapt to market demand, so that consumers can eat good fish, healthy fish and safe fish, and adjust and optimize production structure and ecological environment; develop breeding fishery, strengthen ecological environment remediation and fishery administration, improve the benefits of breeding and releasing, be good at developing new ideas, formulate new measures and solve problems through reform.

III. Future development trend of pelagic fishery and its promotion on China's development

Pelagic fishery has presented obvious layout characteristics of global industrial chain. Economic globalization has promoted regional economic exchanges and cooperation. Division of labor based on specialization in the production process has been increasingly strengthened, forming a global production network bonded by industrial chains and value chains. Cultivating and enhancing the industrial competitiveness of pelagic fishery and enhancing its status in the global industrial chain layout is a core strategic choice for China to develop pelagic fishery in the future. In the judgment of development trend, policy system, technical conditions and organization mode should be the main considerations.

In terms of systems, the global pelagic fishery management system and the participation of the countries in the management of global pelagic fishery resources constitute the institutional factors that affect the participation of a country's pelagic fishery in the global industrial chain. The global pelagic fishery management and its related systems, including the integrated marine development management system represented by the United Nations Convention on the Law of the Sea, the international pelagic fishery management system, the regional and single species pelagic fishery management system, and relevant management systems of coastal resource nations on allowing fishing vessels of foreign countries to enter their exclusive economic zones and engage in fishery production, have constituted guidance and constraints on the fishery production and resource development activities of the pelagic fishery countries. The participation of the countries in the management of global pelagic fishery resources determines a country's rights and roles in global pelagic fishery production as well as resource development and management, which further affect a country's role and status in the global industrial chain of pelagic fishery. Therefore, in the future, China's pelagic fishery will deeply participate in global governance and system formulation, further enhancing China's influence as a great power.

In terms of technology, it affects the investigation and evaluation of fishery resources, the performance improvement of fishing equipment, fishing accuracy, as well as immediate processing, transportation and marketing. The mastery of the pelagic fishery production and management entities on pelagic fishery-related technologies determines their statuses in the layout of global pelagic fishery to some extent. The reason why Japan, the EU, the US and other pelagic fishery countries or regions can maintain as a leader in the industrial chain of global pelagic fishery for a long time is that they are able to carry out continuous technological innovation based on core advantages. With the increasingly fierce competition in pelagic fishery brought about by the shrinking fishery resources worldwide, in order to further establish or maintain competitive advantages, economies will have to continue to increase investment and develop new technologies. Therefore, China will attach importance to scientific and technological innovation in the development of pelagic fishery to provide strong support. Demonstration can be carried out in some advantageous areas of marine industry, such as Shenzhen. The issue of Outline of Development Plan of Guangdong-Hong Kong-Macau Greater Bay Area and Opinions of the CPC Central Committee and the State Council on Supporting Shenzhen to Build a Pilot Demonstration Zone of Socialism with Chinese Characteristics have further clarified that Shenzhen will take the lead in national development to establish a pilot zone, supported Shenzhen to speed up the construction of a global marine center city, and put forward specific requirements on how to accelerate the construction of global marine center city in Shenzhen.

In terms of organization, the scale of pelagic fishery enterprises has become an important factor affecting a country's participation in the global industrial chain. Whether a country has any multinational enterprises with strong influence and control on a global scale, and the size and number of such multinational enterprises, will determine its status in the global industrial chain layout of pelagic fishery. A good example is the pelagic tuna industry. Multinational corporations such as Taiwan's FCF Fishery Co. and Singapore's Sanhai Company have had a great influence on the development of the industry, playing an important role in the development of pelagic fisherys in Taiwan China and Singapore. Taiwan 's FCF Fishery Co. is a professional logistics trade service company, and the world's largest tuna trade service provider. Through the establishment of a global service network, the company has provided upstream and downstream customers with competitive services, such as fish purchases, fish reloads, fishing vessel agents, marine replenishment and refueling, and base services, which effectively link marine fishing production with land processing and sales, forming a network of mutual benefits and establishing a long-term cooperative relationship to build the company's core competitiveness. As the company is not directly involved in the fishing and processing of tuna, low efficient cost investments have been reduced.

China's pelagic fishery should follow the trend, improve the competitiveness of its pelagic fishery in the global industrial chain layout, strengthen the construction of information service platform for pelagic aquatic products market, establish and improve the early warning and forecasting system of international market price of pelagic aquatic products, and actively cultivate the domestic market of pelagic aquatic products; enhance the investigation and assessment ability on global pelagic fishery resources, improve the equipment and technology of pelagic fishery, enhance the quality of pelagic fishery practitioners, promote the construction of overseas bases for pelagic fishery, perfect the cold chain logistics system of pelagic fishery, strengthen the processing capacity of catches from pelagic fishery, and innovate the means of financial support of pelagic fishery enterprises, as well as fully exploit the potential for the development of new fish species in pelagic fishery; enhance global pelagic fishery management adaptation and participation capabilities, adjust and improve support policies for pelagic fishery, and cultivate leading pelagic fishery enterprises.

THE PROSPECT OF SHENZHEN'S PELAGIC FISHERY

深圳远洋渔业的发展前景

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远洋渔业概述

远洋渔业是海洋水产业的组成部分，指远离本国渔港或渔业基地，在别国沿岸海域或深海从事捕捞活动的水产生产事业。远洋渔业包括过洋渔业和大洋渔业。过洋渔业指到别的国家12～200海里以内从事捕捞生产；大洋渔业指到公海从事捕捞生产。

远洋渔业是相对于近岸渔业而言的，是作为海洋渔业的一部分出现的，因此，远洋渔业除具备海洋渔业的一般特性外，还具备一些自身的特性。

1、风险性：远洋渔业作业区分布在全球各地，受季节、气候、洋流、鱼群生长周期等方面影响较大，人员安全和损益都存在较高的风险性。

2、敏感性：远洋渔业作为全球性行业，其作业区和运输路线经常涉及其他国家海域，企业需遵守各项国际规章制度，时刻关注当时的国际形势和经济形势，对国内政策、国际形势、经济形势等方面都具有较大的敏感性。

3、资源依赖性：远洋渔业较大程度依赖作业区的海洋生物资源，其产量取决于大洋中的生物资源禀赋状况。

目前，我国远洋渔业的产业规模已进入全球前列，2018年我国远洋渔业总产量和总产值分别225.75万吨和262.73亿元，我国船队总体规模和远洋渔业产量均居世界前列，作业远洋渔船达到2600多艘，占全世界总量的70%。公海鱿鱼钓船队规模居世界第一，金枪鱼延绳钓船数和金枪鱼产量居世界前列，专业秋刀鱼船数和生产能力跨入世界先进行列。我国远洋渔船作业海域遍布在42个国家（地区）的专属经济区及印度洋、大西洋、太平洋公海和南极海域。

远洋鱿钓是我国远洋渔业的重要组成部分，是大洋性渔业的支柱产业之一。我国远洋鱿钓渔业已从当初日本海单一渔场扩展到西北太平洋、东南太平洋、西南大西洋和印度洋四大公海，产业规模跃居全球前列，鱿鱼年产量连续9年居世界第一，我国已成为全球最大远洋鱿鱼生产国、市场国和消费国。截至2018年底，全国已有600余艘远洋鱿钓渔船，产量达52万多吨，约占世界鱿鱼产量的20%，产值约70亿元。整个鱿钓行业在规范管理、国际履约、科技支撑、市场拓展、产业链建设、行业自律等方面取得了跨越式发展。

Overview of pelagic fishery

As a part of the marine aquaculture, pelagic fishery refers to the production of aquatic products by fishing in the coastal waters or deep seas of other countries rather than in domestic fishing ports or fishery bases. Pelagic fishery includes distant water fishery and ocean fishery. Distant water fishery is the fishing production within 12 to 200 nautical miles of other countries, and ocean fishery is the fishing production on the high seas.

Different from inshore fishery, pelagic fishery is a part of marine fishery. Therefore, it has some of its own characteristics besides the general characteristics of the marine fishery.

1.Risk: The operation areas of pelagic fishery are distributed all over the world, and the operation is greatly affected by season, climate, ocean current, and fish growth cycle, so there is a high risk in both safety and profits.

2.Sensitivity: The operation areas and transportation routes of pelagic fishery often involve the waters of other countries as it is a global industry. Therefore, enterprises should follow the international rules and be sensitive to domestic policies, international situation and economic situation.

3.Resource dependence: Pelagic fishery relies on the marine biological resources in the operation areas to a large extent, and the output depends on the endowment of the biological resources in the ocean.

Currently[] the industry scale of China's pelagic fishery has entered the forefront of the world. In 2018, the total output of China's pelagic fishery was 2.2575 million tons, and the output value was 26.273 billion yuan.The overall size of China's fleet and the output of pelagic fishery are both in the forefront of the world, with over 2600 operating long-distance fishing fleets, accounting for 70% of the world' s total. The number of squid fishing fleets on the open seas ranks first in the world; the number of tuna long liners and tuna production rank among the top in the world; and the number of professional saury fleets and the production capacity also enter the ranks of the top in the world. China' s pelagic fishing vessels operate in the exclusive economic zones of 42 countries or regions, as well as the Indian Ocean, the Atlantic Ocean, the Pacific high seas and the Antarctic waters.

Pelagic squid fishing is an important part of China's pelagic fishery and one of the pillar industries of ocean fishery. China's pelagic squid fishing fishery has been expanded to 4 major high seas in the Northwest Pacific Ocean, Southeast Pacific Ocean, Southwest Atlantic Ocean and Indian Ocean from the single fishery in the Sea of Japan. The industrial scale has leapt to the forefront of the world, with the annual output of squid ranking first in the world for 9 years in a row. China has become the largest producer, market and consumer of pelagic squid in the world. By the end of 2018, there were over 600 pelagic squid fishing vessels in China, with an output of more than 520,000 tons, accounting for about 20% of the world's squid production, and the output value was about 7 billion yuan. The whole squid fishing industry has made great strides in standard management, international fulfillment of contracts, scientific and technological support, market expansion, industrial chain construction, self-discipline of the industry and so on.

深圳远洋渔业的发展特点

（一）总体规模提升空间大

2018年深圳海产品总产量7.57万吨，为舟山远洋渔业总产量（46.22万吨）的16.38%。为全国海产品总产量的0.2%，总体规模较小。深圳海洋渔业总产值在海洋经济中仅占0.4%的比重，远落后于海洋交通运输、滨海旅游、海洋油气和滨海电力等产业，具备较大的提升空间。

截至2016年底，深圳具备一定规模的远洋渔业企业共5家，仅占全国162家的3.09%，总体数量远少于青岛、舟山等城市。在发展海洋经济的大形势下，深圳远洋渔业市场亟需注入更多企业，增强市场活力。

（二）产业结构日益优化

深圳远洋渔业仍处于从过洋渔业向远洋渔业转型期间，以过洋渔业为主。一是由于活鱼运输是深圳水产品的主要流通方式，如在石斑鱼流通中，活鱼运输占的比例约是50%～60%，冰鲜约占20%～30%，冻品运输只有10%，而受制于渔船冷冻技术，深圳远洋渔业主要集中在近海渔场。二是由于深圳沿海渔业资源的日益匮乏，迫使远洋渔船将目光瞄向东海、中西太平洋等远方海域，积极参与到国际远洋捕捞的队伍中。

图2-1：2012-2018年深圳市海产品总产量
数据来源：深圳市国民经济统计公报

The characteristics of the development of Shenzhen's pelagic fishery

(1)Shenzhen's pelagic fishery has a large room for the expansion of the overall scale.

The total output of seafood in Shenzhen in 2018 was 75,700 tons, accounting for 16.38% of the total output of Zhoushan pelagic fishery (462,200 tons) and 0.2% of the total output of seafood in China. The total output value of Shenzhen's marine fishery accounts for only 0.4% of the marine economy, which lags far behind industries including marine transportation, coastal tourism, marine oil and gas, as well as coastal power, so it has a large room for improvement.

By the end of 2016, there are only 5 pelagic fishing enterprises of a certain scale in Shenzhen, accounting for only 3.09% of the 162 enterpeises around the country, and this number was far less than that of cities like Qingdao and Zhoushan. Under the general situation of marine economy development, Shenzhen's pelagic fishery market urgently needs more enterprises to enhance market vitality.

(2)Shenzhen's pelagic fishery has an increasingly optimized industrial structure.

Shenzhen's pelagic fishery is still in the transition period from distant water fishery to ocean fishery, with distant water fishery as the main type. On the one hand, live fish transportation is the main transportation method of aquatic products in Shenzhen. For example, in the transportation of grouper, live fish accounts for about 50% to 60%, chilled fish accounts for about 20% to 30%, and frozen fish accounts for only 10%. Restricted by the freezing technology of fishing vessels, the pelagic fishery in Shenzhen is mainly concentrated in inshore fisheries. On the other hand, due to the increasing shortage of coastal fishery resources in Shenzhen, pelagic fishing vessels have to turn to distant waters such as the East China Sea and the Central and Western Pacific Ocean to participate in the international pelagic fishing.

Shenzhen's pelagic fishing has increasingly rich types of products, from over a dozen species in 2008 to more than 30 now, including hairtail, cuttlefish, butterfish, mackerel, Nibea albiflora, eel, and tuna. Among them, about half of Shenzhen's pelagic fishing boats only take tuna as their target due to its high economic value. According to statistics, China's 19 tuna fishing enterprises sell more than 10,000 tons of tuna products to Japan each month during the peak season with the added value of over 50 million dollars, and Shenzhen's pelagic fishery accounts for the majority of them.

With the increasing economic strength of Shenzhen's pelagic fishery enterprises, the operation modes of pelagic fishery have been expanded from purse seine and longline fishing in the beginning to trawling, ultra-low temperature tuna longline fishing, bottom fishing, light purse seine and fixed net, and a series of operation methods suitable for shallow sea and deep sea have been improved.

深圳远洋渔业捕捞品种日益丰富，已从2008年的十几个品种增加到现在的三十多个，包括带鱼、墨鱼、鲳鱼、马鲛鱼、姑鱼、鳕鱼、金枪鱼等。其中因金枪鱼具备较高的经济价值，深圳远洋渔船中约有半数全部以金枪鱼为捕捞目标。据统计，我国19家金枪鱼捕捞企业在旺季仅每月销售给日本市场的金枪鱼产品就有1万多吨，增加值5000多万美元，其中深圳远洋渔业贡献占大部分比重。

随着深圳远洋渔业企业的经济实力的逐步增强，远洋渔业作业方式逐步向现代化发展，已从初级的围网、延绳钓扩展到拖网、超低温金枪鱼延绳钓、底钓、灯光围网、定置网等，完善出一系列适用于浅海和深海的作业方式。

（三）企业创新能力强

深圳远洋渔业企业在政策支持下，积极开展技术创新，实行信息化管理模式，如自主研发远洋渔船船位检测、卸鱼系统等，可实时监测渔船位置、生产情况和历史航迹，大幅提升了船队管理水平。此外，为争取更多海外渔业资源配额，深圳各远洋企业创新业务模式，以购买入渔权的方式，与入渔国、到过签订合作协议，开展远洋渔业项目，签约国包括马来西亚、缅甸、基里巴斯等，弥补了我国渔业资源的不足。

（四）配套产业具备发展潜力

远洋渔业以远洋渔业捕捞为核心，涉及远洋船舶及配套设备制造、水产品加工、冷链物流、信息技术等多个行业，已形成较为完整的产业链结构。深圳在冷链物流和信息技术行业发展较为成熟，但在远洋渔业装备制造、远洋渔港等方面基础较为薄弱，可发展空间大。

深圳主要远洋渔业企业

（一）深圳市联成远洋渔业有限公司

深圳市联成远洋渔业有限公司成立于2002年9月，是一家综合性远洋渔业企业，也是中国从事冰鲜金枪鱼捕捞和供应的主要远洋渔业企业之一。其业务涵盖远洋渔业捕捞、渔需物资、水产品购销、国内商业、物资供销业及进出口业务。其主要捕捞的品种有大目金枪鱼、黄鳍金枪鱼，副产品有剑鱼、旗鱼、鲨鱼及其他杂鱼。其中金枪鱼延绳钓项目主要集中在中西太平洋密克罗尼西亚联邦、马绍尔群岛及帕劳共和国。贸易产品包括冰鲜金枪鱼原条及半加工产品，急冻剑鱼、旗鱼、金枪鱼鱼块、鱼翅、鲨鱼肉等其他杂鱼。产品主要销往日本和美国，部分返销国内。联成远洋分别在香港、日本、关岛、夏威夷、美国大陆、帕劳、马绍尔群岛共和国、菲律宾及台湾等地设有分支机构，并与香港联泰渔业投资有限公司合作经营在克罗尼西亚联邦、马绍尔群岛及帕劳共和国的渔业基地、加工厂，提供后勤补给服务。

(3)Shenzhen's enterprises of pelagic fishery have a strong innovation ability.

With the policy support, Shenzhen pelagic fishery enterprises have actively carried out technological innovation and implemented information-oriented management models such as independent research and development of position detection and fish unloading systems for pelagic fishing vessels, which can monitor the position, production and historical tracks of fishing vessels in real time and greatly improve the fleet management. To earn more quotas for overseas fishery resources, Shenzhen's pelagic enterprises have signed cooperation agreements with the destination fishing countries including Malaysia, Myanmar, and Kiribati to launch pelagic fishing projects by purchasing access fishing rights, which solves the problem of the shortage of fishery resources in our country.

(4)Shenzhen's supporting industries of pelagic fishery have a potential for development.

Pelagic fishery takes pelagic fishing as the core, involving industries such as the manufacture of pelagic ships and supporting equipment, aquatic product processing, cold chain logistics, and information technology. It has formed a complete industrial chain. The development of cold chain logistics and information technologies in Shenzhen is mature, but the foundation in pelagic fishery equipment manufacturing and pelagic fishing ports is weak, and there is still a lot of room for development.

Major pelagic fishery companies in Shenzhen

(1)Liancheng Overseas Fishery (Shenzhen) Co., Ltd.

Liancheng Overseas Fishery (Shenzhen) Co., Ltd. was established in September, 2002. It is a comprehensive pelagic fishery company and one of the major pelagic fishery companies engaging in the tuna fishing and chilled tuna supply.The business of this company includes pelagic fishing, fishery materials, purchase and sale of aquatic products, domestic commerce, material supply and marketing, as well as export and import business. The main products include big-eye tuna and yellow-fin tuna, and the byproducts include swordfish, sailfish, shark and other fishes. Tuna longline fishing projects are mainly concentrated in the Federated States of Micronesia, the Marshall Islands and the Republic of Palau in the Western and Central Pacific Ocean. The trading products include chilled raw tuna and semi-processed tuna, as well as frozen swordfish, sailfish, tuna meat, shark fin, shark meat and other fish. The company's products are mainly sold to Japan and the United States, with a part sold back to China.Liancheng Overseas Fishery works with Luen Thai Fishing Venture Ltd. to operate the fishing bases and processing plants in the Federated States of Micronesia, the Marshall Islands and the Republic of Palau, and provide logistical supply. Meanwhile, the company also has branches in Hong Kong, Japan, Guam, Hawaii, the mainland of the United States, Palau, the Republic of the Marshall Islands, the Philippines and Taiwan.

(2)Shengang Pelagic Industry (Shenzhen) Co., Ltd.

Shengang Pelagic Industry (Shenzhen) Co., Ltd. began its pelagic fishery project in 2005. It is an export-oriented pelagic fishery company integrating fishing, production, cold storage, processing, marketing and sales. It has the pelagic fishery enterprise qualification approved by the Ministry of Agriculture of China, and has a wide domestic and foreign operation and sales network. The main product is high-value tuna including big-eye tuna, yellow-fin tuna and Southern blue-fin tuna. Besides, there are several steel fishing boats operating in the waters of Southeast Asia, mainly catching economic fish like hairtail, cuttlefish, butterfish, mackerel, Nibea albiflora and squid.To improve the industrial chain, the company has cooperated with Taiwan Longshun Fishery Group to invest in the development of the production and operation project integrating the ultra-low temperature refrigeration, processing and marketing of tuna, and establish Shengang Shunyi Ultra-low Temperature Frozen Food (Shenzhen) Co., Ltd.

（二）深圳市深港远洋实业有限公司

深圳市深港远洋实业有限公司于2005年开始远洋渔业项目，是一家集捕捞生产、冷藏加工、市场销售于一体的外向型远洋渔业企业，有国家农业部批准的远洋渔业企业资格，并有较广泛的国内外经营销售网络。主要生产的品种为大目、黄鳍、马苏等高价值金枪鱼，另有数艘钢质渔船在东南亚海域作业，主要捕捞品种为带鱼、墨鱼、鲳鱼、马鲛、黄姑鱼、鱿鱼等经济鱼类。为完善产业链，深港远洋与台湾隆顺渔业集团合作投资开发超低温金枪鱼冷藏、加工、销售一体化生产经营项目，并成立深港顺亿超低温冷冻食品（深圳）有限公司。

（三）深圳市水湾远洋渔业有限公司

深圳市水湾远洋渔业有限公司成立于2000年3月，并获得《农业部远洋渔业企业资格》证书。水湾远洋共拥有30艘配备先进信息技术设备及超低温仓储的远洋捕捞渔船，分组船队开赴太平洋及印度洋海域进行延绳钓、流刺网作业。其经验范围主要包括远洋捕捞、水产品加工、渔需物资购销，拥有自营进出口权，是国内专业从事金枪鱼捕捞及超低温深加工的远洋渔业公司之一。水湾远洋主要捕捞的品种有各类金枪鱼、墨鱼、鱿鱼、带鱼等，年产量达一万多吨。产品主要返销国内市场，部分销往台湾、日本、韩国、美国及欧洲等地，在马来西亚、斐济、阿曼设立了海外渔业基地，为船队提供后勤补给服务及海外销售平台。

（四）深圳市浩航远洋渔业有限公司

深圳市浩航远洋渔业有限公司是一家集远洋渔业开发，海洋捕捞，水产品运输，加工和销售，以及船舶物资贸易进出口于一体的综合性远洋渔业公司，主要业务涵盖远洋捕捞，海上渔货运输，鱼产品冷藏加工，鱼产品国内开发与国际化市场销售等，业务覆盖东南亚周边国家，优质渔获主要销往美国、日本、欧洲及中国等市场。

深圳发展远洋渔业的优势

（一）国际环境逐步优化

目前我国已经与有关国家签署了14个双边政府间渔业合作协定、6个部门间渔业合作协议，加入了8个政府间国际渔

(3)Shenzhen Shuiwan Pelagic Fishery Co., Ltd.

Shenzhen Shuiwan Pelagic Fishery Co., Ltd. was established in March, 2000, and obtained the pelagic fishery enterprise qualification of the Ministry of Agriculture. The company has 30 pelagic fishing vessels equipped with advanced information technology equipment and ultra-low temperature storage, and divides them into groups for longline fishing and drill-gill net fishing in the Pacific Ocean and the Indian Ocean.The business of this company includes pelagic fishing, aquatic products processing, as well as purchase and sale of fishing materials. It is one of the pelagic fishing companies engaging in professional tuna fishing and ultra-low temperature deep processing in China. The main products include various kinds of tuna, cuttlefish, squid and hairtail, and the annual output is more than 10,000 tons.Most of the products are sold back to China's mainland, and part of them are sold to Taiwan, Japan, South Korea, the United States and Europe.The company has set up overseas fishing bases in Malaysia, Fiji and Oman to provide logistics supply and overseas sales services for the fleet.

(4)Shenzhen Haohang Pelagic Fishery Co., Ltd.

Shenzhen Haohang Pelagic Fishery Co., Ltd. is a comprehensive pelagic fishery company integrating pelagic fishery development, marine fishing, the transportation, processing and marketing of aquatic products, as well as import and export of ship materials. The business of this company includes pelagic fishing, marine fishery transport, refrigeration and processing of fish products, as well as domestic development and international marketing and sales of fish products. The business of this company covers the neighboring countries in Southeast Asia, and the high-quality products are mainly sold to the United States, Japan, Europe and China.

The advantages of pelagic fishery development in Shenzhen

(1)The improving international environment

At present, China has signed 14 bilateral intergovernmental fishery cooperation agreements and 6 interdepartmental fishery cooperation agreements with relevant countries, joined 8 intergovernmental international fishery organizations, and established the cooperation relationship with 12 multilateral international organizations on fishery issues. The continuous expansion of the cooperation in pelagic fishery has provided a better international environment for the development of pelagic fisheries in Shenzhen.

(2)The improving domestic policy environment

Since the beginning of the 13th Five-year Plan, China has successively issued documents such as "The Development Plan for China's Pelagic Fishery During the 13th Five-year Plan" and "Opinions on Deepening the Structural Reform on the Supply Side of Agriculture and Accelerating the Foster of New Growth Drivers for Agriculture and Rural Areas", which require us to stabilize and optimize the oceanic fishery on the high seas, strengthen and improve the distant water fishery, and actively participate in issues related to polar fishery. Meanwhile, these documents also make clear 7 key tasks to develop

业组织，与12个多边国际组织就渔业问题建立了合作关系。远洋渔业合作范围的不断扩大，为深圳远洋渔业进一步发展提供了更为优良的国际环境。

（二）国内政策环境不断完善

“十三五”年以来，我国陆续出台了《“十三五”全国远洋渔业发展规划》、《关于深入推进农业供给侧结构性改革，加快培育农业农村发展新动能的若干意见》等文件，要求稳定和优化公海大洋性渔业，巩固提高过洋性渔业，积极参与极地渔业事务，同时确定了提高远洋渔业规范管理水平、强化远洋渔业安全生产监管、提升远洋渔业装备水平、推进远洋渔业综合基地建设、延长远洋渔业产业链、提高远洋渔业科技支撑能力、深化国际渔业合作等7项远洋渔业发展重点任务，推动我国从远洋渔业大国向远洋渔业强国迈进。

同时期，深圳出台《深圳市海洋经济发展“十三五”规划》、《关于勇当海洋强国尖兵加快建设全球海洋中心城市的决定》等多项文件，支持海洋经济发展，并把建设国家级远洋渔业基地作为市海洋渔业局的重点工作。

（三）支持配套具备天然优势

一是海洋经济整体发展较好。深圳有涉海企业7300多家，约占全省的24%。2018年深圳海洋生产总值约2327亿元，同比增长4.63%。海洋经济生产总值占全市GDP的9.6%。

二是相关产业配套完善。远洋渔业从探捕、捕捞到冷藏加工、配送均需要强有力的科学技术支持。而深圳高新技术产业发达，自主创新能力强，可以较好地将高科技研发与远洋渔业发展相结合，以科技创新促进远洋渔业的快速发展。同时，远洋渔业产业链长，涉及的物流、加工、贸易和金融服务等均为深圳优势产业，为远洋渔业的发展提供相应的支撑和配套服务。

三是地理区位优越。深圳濒临南海、毗邻港澳，海岸线长达260公里，海域面积为1145平方公里，目前拥有大小岛屿51个，拥有珠江口、深圳湾、大鹏湾、大亚湾等“三湾一口”优质湾区资源。所处的粤港澳大湾区是我国经济发展和消费水平较高地区，对高端水产品需求量大，同时深圳海岸线长，多为优良港口，也是远洋船队返航的最佳选择。

深圳远洋渔业的发展前景

（一）总量需求赋予深圳远洋渔业广阔前景

2018年我国进口了价值119.1亿美元的海产品，同比增长36.2亿美元，增幅高达43.6%。根据联合国粮农组织的预测，到2020年，中国进口海产品消费需求将达到1000万吨；到2030年，中国市场海鲜消费将占到全球消费总量的38%，意味着中国市场的水产品供应将更加紧缺。随着我国对优质水产品日益增长的需求，深圳远洋渔业具备较为广阔的发展前景。

（二）城市需求为深圳远洋渔业创造大市场

深圳年消费水产品30多万吨，不断增加的城市人口对水产品需求量日益增大。而深圳近岸捕捞由于受到城市建设加速、渔场的消失、转产转业政策的推进、渔船双控指标的管理等限制，已基本失去提供水产品的能力，自身资源不断减少，目前年捕捞产量不足5万吨，实际养殖面积不足666.67万公顷。随着市民生活水平的提高，对优质水产品的需求日益增多，单靠近海捕捞、养殖已无法满足市民的需要，为保证菜篮子工程，进一步发展深圳市的远洋渔业势在必行。

（三）全球海洋中心城市建设对深圳远洋渔业提出更高要求

全球海洋中心城市的内涵主要包括海洋经济、海洋空间、海洋生态、海洋文化、海洋治理、海洋科技等方面。远洋渔业是海洋经济中不可分割的一部分。随着全球海洋中心城市的建设深入，深圳远洋渔业也面临对标现代信息化转型、全产业链同步发展、提升市场和船队监管等方面的国际行业水平要求。未来深圳亟需建设现代化远洋渔业产业体系，持续加强与全球先进远洋渔业企业间交流合作，不断提高远洋渔业装备制造水平，提升远洋渔业发展能级。

（四）国际金枪鱼交易中心将带动深圳远洋渔业进一步发展

根据《“十三五”全国远洋渔业发展规划》，我国目前已有大连、烟台、上海、舟山4个金枪鱼交易中心。而临近南洋且需求量大的华南地区尚无远洋渔业基地和金枪鱼交易中心。作为国际交流的开放窗口，深圳拥有较强的远洋渔业产业基础、强大的消费能力与贸易需求，具备布局国家级远洋渔业基地和国际金枪鱼交易中心的天然优势。目前深圳已将建设国际金枪鱼交易中心纳入深圳打造全球海洋中心城市的“十个一”工程之一，未来将对深圳远洋渔业产生较大的带动作用。

the pelagic fishery, including improving the standard management, strengthening the supervision of production safety, improving the equipment, promoting the construction of comprehensive bases, extending the industrial chain, improving the scientific and technological support, and deepening international fishery cooperation, so as to promote China to move forward from a major pelagic fishery country to a powerful pelagic fishery country.

During the same period, Shenzhen has issued a number of documents such as “The 13th Five-year Plan for the Development of the Marine economy in Shenzhen”, and “The Decision on Striving to Become a Leading Marine Power and Accelerating the Construction of the Global Marine Center City” to support the development of marine economy. Meanwhile, Shenzhen also takes the construction of the national pelagic fishery base as the key work of the municipal Marine Fishery Bureau.

(3)The natural advantages of industry support

Firstly, the overall development of the marine economy is good. There are over 7300 sea-related enterprises, accounting for about 24% of those in Guangdong province, and they provide important support for Shenzhen’s economic development. In 2018, the total output value of Shenzhen’s marine economy was about 232.7 billion yuan, an increase of 4.63% over the same period last year, accounting for 9.6% of Shenzhen’s GDP, and Shenzhen was leading the whole province in pelagic fishery development.

Secondly, the industry support is complete. Pelagic fishery needs strong scientific and technical support in exploration, fishing, refrigeration, processing and distribution, while Shenzhen has advanced high-tech industry and strong innovation ability. Therefore, it can combine high-tech research and development with the development of pelagic fishery, and promote the rapid development of pelagic fishery with scientific and technological innovation. At the same time, the industry chain of pelagic fishery is long, involving logistics, processing, trade and financial services, which are all advantage industries in Shenzhen, and they provide corresponding support and services for the development of pelagic fishery.

Thirdly, the geographical location is good. Shenzhen is near the South China Sea and adjacent to Hong Kong and Macao, with a coastline of 260 kilometers and a sea area of 1145 square kilometers. At present, it has 51 islands and high-quality bay area resources including the Pearl River Estuary, Shenzhen Bay, Mirs Bay, and Daya Bay. It is located in Guangdong-Hong Kong-Macau Greater Bay Area, a region with a high level of economic development and consumption, as well as a great demand for high-end aquatic products. Meanwhile, Shenzhen has a long coastline and many excellent ports, and it is the best choice for pelagic fleets to return.

The development prospect of Shenzhen’s pelagic fishery

(1)The total demand has opened a broad prospect for the development of Shenzhen’s pelagic fishery

In 2018, China imported seafood worth of 11.91 billion dollars, an increase of 3.62 billion dollars or 43.6% over the same period last year. It is estimated by the United Nations Food and Agriculture Organization that China’s consumer demand for imported seafood will reach 10 million tons by 2020, and by 2030, the seafood consumption in the Chinese market will account for 38% of the total consumption around the world, which means that the supply of aquatic products in the Chinese market will be even more scarce. The increasing demand for high-quality aquatic products in China opens a broad prospect for the development of Shenzhen’s pelagic fishery.

(2)Shenzhen’s demand has created a big market for its pelagic fishery.

The annual consumption of aquatic products in Shenzhen is over 300,000 tons, and the growing population also increases the demand for aquatic products. However, Shenzhen’s inshore fishing has basically lost the ability to provide aquatic products due to the restriction of the acceleration of urban construction, the disappearance of fishing grounds, the implementation of the industry transformation policies, and the management of double control indicators for fishing vessels. Therefore, the sources of supply have been continuously reduced. At present, the annual fishing output is less than 50,000 tons, and the culture area is less than 6.6667 million hectares. As the improvement of people’s livelihood, the demand for high-quality aquatic products is also increasing, and inshore fishing and aquaculture alone cannot meet the demand. Therefore, to implement the “Shopping Basket Program”, it is necessary to develop the pelagic fishery in Shenzhen.

(3)The construction of a global marine center city has put forward higher requirements for the pelagic fishery of Shenzhen

The connotation of the global marine center city mainly includes marine economy, marine space, marine ecology, marine culture, marine governance, and marine science and technology. Pelagic fishery is an integral part of marine economy. As the development of the global ocean center city construction, Shenzhen’s pelagic fishery also needs to meet the international industry standards of the modern and information-oriented transformation, the synchronous development of the whole industry chain, and the promotion of market and fleet supervision. In the future, Shenzhen urgently needs to build a modern industry system for pelagic fishery and continue to strengthen exchanges and cooperation with the advanced pelagic fishery enterprises around the world, so as to improve the manufacturing and promote the development of pelagic fishery.

(4)The International Tuna Trading Center will promote the development of pelagic fishery in Shenzhen.

According to “The Development Plan for China’s Pelagic Fishery During the 13th Five-year Plan”, there are 4 tuna trading centers in Dalian, Yantai, Shanghai and Zhoushan at present in China. However, there is no pelagic fishery base or tuna trading center in South China, which is close to the South China Sea and has a great demand for the products. Shenzhen is a window for international exchanges, and it has a strong foundation of the pelagic fishery industry, strong consumption capacity and trade demand. Therefore, it has the natural advantages of establishing a national pelagic fishery base and an international tuna trading center. Shenzhen has now included the construction of an international tuna trading center into one of the ten projects for Shenzhen to build a global marine center city, which will greatly drive the development of Shenzhen’s pelagic fishery in the future.

PELAGIC FISHERY HOME PORT: THE CORE PLATFORM OF PELAGIC FISHERY

远洋渔业母港：远洋渔业的核心载体

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远洋渔业是海洋水产业的组成部分，指远离本国渔港或渔业基地，在别国沿岸海域或深海从事捕捞活动的水产生产事业。通常把在公海上的捕捞作业称为大洋性渔业，在他国专属经济区内的作业称为过洋性渔业。我国《远洋渔业管理规定》所称远洋渔业，是指中华人民共和国公民、法人和其他组织到公海和他国管辖海域从事海洋捕捞以及与之配套的加工、补给和产品运输等渔业活动，但不包括到黄海、东海和南海从事的渔业活动。

远洋渔业的主要生产设施包括远洋捕捞渔船或船队和与之配套的渔港。远洋捕捞船队通常由机械化、自动化程度较高，助渔、导航仪器设备先进、完善，续航力较长，具有冷冻、冷藏、水产品加工、综合利用等设备的大型加工母船和若干捕捞子船、加油船、运输船组成，部分远洋捕捞渔船还配有直升机以便于侦察鱼群活动范围。远洋渔业具有资金和劳动力密集、作业风险高、对现代技术依赖性强等特点。世界上现有的远洋捕捞渔船长度在20米到140米之间不等，单船总吨位最高接近1万吨。

渔业港口，简称渔港，区别于工业港口或商业港口。《全国沿海渔港建设规划（2018—2025年）》所述渔港，是指主要为海洋渔业生产服务和供渔业船舶停泊、避风、装卸渔获物、补给渔需物资的人工港口、自然港湾以及综合港的渔业港区，包括水域、岸线、陆域等。

我国根据渔港服务范围与功能、来港作业渔船数量、鱼货卸港量等情况将渔港分为四级：中心渔港、一级渔港、二级渔港、三级渔港。其中国家中心渔港年鱼货卸港量在8万吨以上，可满足800艘以上大、中、小型渔船停泊、避风和补给，水、陆域面积分别达到40-50万㎡和20万㎡以上，渔用岸线长度1000米以上，码头岸线长度不少于600米，码头前沿陆域纵深不少于100米，渔港防灾减灾能力达到50年一遇以上，具有吸纳一定数量转产转业渔民能力。

近年，国家农业农村部批准设立了三个“国家级远洋渔业基地”，包括浙江舟山国家远洋渔业基地、山东荣成沙窝岛国家远洋渔业基地和福建福州（连江）国家远洋渔业基

Fishing ports are different from industrial ports or commercial ports. According to the National Coastal fishing Port Construction Plan (2018-2025), fishing ports refer to artificial ports, natural harbors, and fishing port areas of comprehensive ports including water areas, shorelines and land areas, which mainly provide services for marine fishery production, and serve as places for fishery vessels to berth, take shelter from wind, load and unload catch, and replenish fishing materials.Fishing ports are divided into 4 types including central fishing ports, first-class fishing ports, second-class fishing ports and third-class fishing ports in China in terms of the service scope and functions, the number of operating fishing vessels in the port, the amount of fish cargo unloaded in the port and so on. Among them, national central fishing ports can provide berthing, wind shelter and replenishment services to over 800 large, medium and small fishing vessels, with an annual fish cargo unloading amount of over 80,000 tons. Besides, their water and land areas are 400, 000 to 500, 000 square meters and 200,000 square meters respectively, with over 1000 meters of fishing coastline, over 600 meters of wharf shoreline, and no less than 100 meters depth of the land areas at the front of the wharfs. The central fishing ports can prevent and mitigate disasters once in over 50 years, and they can attract a certain number of fishermen with their jobs and industries changed.

In recent years, the Ministry of Agriculture and Rural Affairs of China has approved the establishment of 3 "national pelagic fishery bases", including Zhejiang Zhoushan National Pelagic fishery Base, Shandong Rongcheng Shawodao National Pelagic Fishery Base, and Fujian Fuzhou (Lianjiang) National Pelagic Fishery Base. It has also mentioned the establishment of "modern and professional home port for pelagic fishery" or "modern and international home port for pelagic fishery". The planning standards of these fishing mother ports are significantly higher than those of the national central fishing ports. At present, there is still no official document clearly defining the "mother port of pelagic fishery", and this article defines it as a comprehensive fishing port providing berthing, wind shelter, unloading, and replenishment services for pelagic fishing vessels, and a major base for the docking, operation management and maintenance of pelagic fishing vessels. This article will discuss the port facilities and current development of the pelagic fishery home port.

Major facilities of the pelagic fishery home port

The fishing port mainly consists of water areas, land areas and shorelines. The water areas include harbor basins, anchorages, shelter bays and waterways, and the land areas include fishing loading, unloading, and trading areas, fuel and water supply areas, fishing gear and vessels repair areas, road transport areas, aquatic products processing areas, and the fishing port administration office.Fishing port facilities mainly include water facilities and land facilities. Modern large fishing ports for off-sea fishery and pelagic fishery

地，提及要建设“远洋渔业现代化专业母港”或“现代化国际远洋渔业母港”的表述。该等渔业母港的规划标准均较大幅度高于国家中心渔港标准。目前尚无官方文件对“远洋渔业母港”进行明确定义，本文界定“远洋渔业母港”为：主要为远洋渔船提供停泊、避风、装卸、补给服务，并且作为远洋渔船主要停靠、运营管理和维护基地的综合性渔港。下文将围绕远洋渔业母港的港口设施及发展现状进行讨论。

远洋渔业母港的主要设施

渔港主要由水域、陆域和岸线构成。渔港水域包括港池、锚地、避风湾和航道；陆域则由渔获装卸交易区、油水补给区、渔船渔具修造区、道路运输区、水产品加工区以及渔港行政办公区等组成。

渔港设施主要包括水中设施和陆上设施两大部分。供外海、远洋渔业使用的现代大型渔港一般有锚地、港池、码头和护岸等水中设施，和供水、供冰、供油、储运、冷冻、冷藏、加工、渔船渔具修造等陆上设施，以及水产供销、渔民福利、通讯、气象、海上救护和渔业管理等机构，并设有捕捞生产指挥调度系统。

水中设施

港池，港口内供船舶停泊、作业、驶离和转头操作用的水域。港池要有足够的面积和水深，要求风浪小和水流平稳。港池包括码头前沿水域、船舶旋回水域、港内锚地等。锚地是指在水域中指定地点专供船舶停泊以及进行水上装卸作业的场所。

护岸是在原有的海岸岸坡上采取人工加固的工程措施，用来防御波浪、水流的侵袭和淘刷及地下水作用，维持岸线稳定。

码头是海边、江河边专供轮船或渡船停泊，让乘客上下、货物装卸的建筑物。码头泊位是指沿码头线按停靠一艘设计船舶所需长度划分的装卸作业单元，一个泊位是港口装卸作业的一个基本单元。一座码头可能由一个或几个泊位组成，视其布置形式和位置而定。泊位长度应满足船舶安全靠离作业和系缆的要求，一般为一个设计船型的船长和船与船之间必要的安全间隔之和，安全间隔大小根据船舶大小而有所不同，一般为船长的1/10～1/8。

港池深度需与船舶吨位相适应，岸线、码头和泊位建设则需考虑到往来作业渔船的尺寸大小。目前在浙江和山东两个“国家远洋渔业基地”作业的远洋渔船长度大多在30～60米之间，单船吨位大多在几百吨至一千吨之间，少数大型远洋渔船吨位超过三千吨。

usually have water facilities including anchorages, harbor basins, docks and bank revetments, as well as land facilities for water supply, ice supply, fuel supply, storage and transportation, freezing, refrigeration, processing, and repair of fishing gear and fishing vessels. Besides, these fishing ports also have organizations for fishery supply and marketing, fishermen' s welfare, communications, meteorology, marine rescue, and fishery management, as well as the command and dispatch system for fishing and production.

Water facilities

Harbor basin is a water area in the port serving for the berthing, operation, departure and turning of ships, which requires enough space and water depth, as well as small wind and waves and steady water flow. Harbor basin include the waters at the front of the wharf, the waters for ship turning, the anchorages in the port and so on, in which anchorage refers to the designated place in the waters for the ship berthing and cargo handling.

Bank revetment is an engineering measure to reinforce the original coastal slope artificially, so as to prevent the invasion and scouring of waves and currents as well as the influence of groundwater, and to maintain the stability of the shoreline.

A port is a facility by sea or river serving the berthing of ships and ferries, the on and off of passengers and cargo handling. The berth is a loading and unloading place along the wharf line divided according to the length required to dock a design ship. It is a basic unit for cargo handling of the port. A port may consist of one or several berths, depending on its layout and location. The length of the berth should meet the requirements of safe docking and departure of the ship, and it is usually the sum of the length of a design ship and the necessary safe distance between 2 ships. The safe distance varies according to the size of the ship, which is usually 10% to 12.5% of the length of the ship.

The depth of the harbor basin should match the tonnage of the ship, and the size of the fishing vessel should be taken into consideration in the construction of the shoreline, port and berth. The length of the pelagic fishing vessels operating in the "national pelagic fishing bases" in Zhejiang and Shandong is mostly between 30 and 60 meters, and the tonnage is mainly between several hundred tons and 1,000 tons per vessel, with the tonnage of a few large pelagic fishing vessels exceeding 3,000 tons.

Land facilities

The land area consists of the fishing loading, unloading, and trading area, the fuel and water supply area, the fishing gear and vessels repair area, the road transport area, the aquatic products processing area, and the fishing port administration office. Besides, it should also be equipped with the facilities for road lighting, communication and navigation, fishing materials supply, disaster prevention and fire-fighting, environmental protection, refrigeration and fresh-keeping and so on. This article will briefly describe the material supply, fish trading market, cold chain warehousing and transportation, and fishery administration and customs.

Material supply. The base should provide water, ice and fuel for fishing vessels, and build a comprehensive logistics supply market to provide supplies including the main and auxiliary engine of fishing vessels, spare parts of fishing machines, fishing gear materials, fire-fighting equipment, and daily necessities for the crew in fishing vessels.Large pelagic fishing vessels usually go out to sea every 1 to 2 years, and production and living supplies which can be used for several months will be prepared before that. Most of the large fishing

陆上设施

陆域则由渔获装卸交易区、油水补给区、渔船渔具修造区、道路运输区、水产品加工区以及渔港行政办公区等组成，通常还应配备道路照明、通讯导航、渔需供应、防灾消防、环境保护、冷冻保鲜等设施。本文主要对物资补给、鱼货交易市场、冷链仓储运输和渔政海关作简要说明。

物资补给。基地补给应包括渔船的加水、加冰、加油，同时构建后勤补给综合市场，提供渔船主机、辅机、捕捞机械备件与渔具材料、消防器材、渔船船员生活必需品等补给品。

大型远洋渔船出海作业一次，一般在1—2年之间，每次出海前，远洋渔船都会备足几个月的生产和生活物资。规模较大的捕捞企业大多配有补给船，在捕捞船出海一段时间后送去补给物资并带回渔获物，以燃油为例，据测算，每生产1吨远洋渔货要消耗燃油（主要是柴油）1～1.5 吨，一艘大型拖网加工船的年耗油量在4500吨左右。在港口或周边地区配套生产和生活物资类的制造、加工、贸易企业，能为远洋渔船作业提供强大的物质及后勤保障。

鱼货交易市场。是渔港陆域重要的基础设施。它是到港鱼货清洗、分类、计量作业的场所，起着鱼货展示交易功能，是鱼货冷藏、加工、分拣、运输和配送的枢纽。具备鱼货流通市场化和水产品加工产业化功能的渔港是鱼货经营链上重要的环节和场所。

冷链仓储运输。远洋渔业作业周期长，运输路途远，对运输、储存、加工有着比近海渔业更高的要求。冷链能够改善渔港与外界之间流通货物的质量，促进水产品精深加工的发展，扩大海水产品消费区域，已经成为渔港配套建设中不可缺少的一部分。

不同的水产品由于其变质速率不同而需要采取不同的控温储藏方式。例如在-18～24℃之间储存，鱼类可以储藏9～12个月，而虾类则最长可以储藏16个月。用于运输金枪鱼的超低温渔船则需要将温度控制在-50℃～-55℃之间。目前远洋渔港主要配备三种类型的冷库：-18～0℃低温冷藏库；-25～-18℃低温冻结库；-60℃以下超低温速冷库。部分冷库还辅以电子化、物联网等技术手段来完善冷链物流系统。

渔政海关。正常的进口货物是船舶抵港后先将所载货物卸至前沿码头，再办理联检手续，然后将货物搬移到堆场，待海关舱单确认、通关放行后取货，全过程时间较长，容易对渔获物的品质造成不良影响。福州某港口为提高通关效率，采用了“车船直取”的模式，在船舶抵达后立即办理舱单确认，使进口货物可以不经过码头和堆场，通关放行后货主在海关监管下直接从船上取货。该模式减少了冷链货物在港区的停留和作业时间，从船舶抵港到货物运抵冷库，中间仅用不到2小时，而往常需要3—4天。

enterprises are equipped with supply vessels to deliver supplies and bring back the catches after the fishing vessels have been out to sea for a period of time. It is estimated that to produce a ton of pelagic fishing goods, 1 to 1.5 tons of fuel (mainly diesel fuel) will be consumed, and the annual fuel consumption of a large trawler is about 4500 tons. Setting up enterprises in the port or surrounding areas to manufacture, process and trade production and living materials can provide strong material and logistics support for the operation of pelagic fishing vessels.

Fish trading market. It is an important infrastructure in the land area of fishing ports, a place for the cleaning, classifying and measuring of fish goods, and a hub for fish refrigerating, processing, sorting, transportation and distribution. Fishing products can be displayed and traded here. The fishing port with the function of market-oriented fish circulation and industry-oriented aquatic product processing is an important link and place in the fish management chain.

Cold chain warehousing and transportation. Due to the long operation cycle and transportation distance, pelagic fishery has a higher requirement for transportation, storage and processing than inshore fishery. Cold chain can improve the quality of goods transported from and to the fishing ports, promote the development of intensive processing of aquatic products, and expand the consumption area of seawater products, which has become an indispensable part of the supporting construction of fishing ports.Different aquatic products need to be stored at different temperatures according to their different deterioration speed. For example, fish can be stored for 9 to 12 months, while shrimps can be stored for up to 16 months in the temperature between -18℃ to -24℃. The ultra-low temperature fishing vessels used to transport tuna need to control the temperature between -50℃ to -55℃. At present, pelagic fishing ports are mainly equipped with 3 types of cold storage rooms including the low temperature refrigerator from -18℃ to 0℃, the low temperature freezer from -25℃ to -18℃, and the ultra-low temperature quick freezer below -60℃. Some cold storage rooms are also equipped with technologies such as electronic devices and the Internet of Things to improve the cold chain logistics system.

Fishery Administration and Customs. In most cases, after the arrival of the ship, the imported goods will be unloaded to the wharf apron, and then go through the joint inspection. Then the goods will be moved to the storage yard, and they can only be claimed after the manifest confirmation and clearance of the customs, which will take a long time and have an adverse effect on the quality of the catch. To improve the efficiency of customs clearance, a port in Fuzhou has adopted the model of "direct access between vehicles and vessels". That is to say, the manifest can be confirmed immediately after the arrival of the ship, so that the imported goods do not have to be carried to the wharf and the yard, and the owner of the goods can pick up the goods directly from the ship under the supervision of the Customs after the clearance. This model reduces the time for the stay and operation of cold chain goods in the port area, and it only takes less than 2 hours from the arrival of the ship to the arrival of the goods to the cold storage room, compared with 3 to 4 days in the past.

The current development of the pelagic fishery home port

The pelagic fishery home port is an important base for the berthing, cargo handling, and material supply of pelagic fishing vessels and an important place for the processing of fishery products. It is an important part of pelagic fishery, providing strong logistical and material support for the development of pelagic fishery, and greatly promoting the development of related industries. The construction of pelagic fishing ports can improve the livelihood of fishermen and help the development and revitalization of fishery villages and towns.

远洋渔业母港的发展现状

远洋渔业母港是远洋渔船停泊装卸和物资补给的重要基地，是渔业产品加工的重要场所，是远洋渔业的重要组成部分，为远洋渔业的发展提供了强大的后勤保障和物质支撑，强有力地带动并促进了相关产业的发展。远洋渔港的建设有利于渔民生活质量的提高和渔业村镇的发展振兴。部分远洋渔港兼顾了渔业、商业、旅游业的综合功能，有利于带动当地二、三产业的发展，促进区域经济的繁荣。

从目前已经批准设立的三个国家远洋渔业基地来看，远洋渔业母港通常作为该基地的核心，围绕该核心集聚配套建设相应的功能区、交易中心和产业园区等，实现渔业带动区域经济发展的总体目标。

浙江舟山国家远洋渔业基地于2015年获批建设，基地以“一港一城一区一中心”作为功能定位，远洋渔业现代化专业母港的港池规划面积3.5平方公里，平均水深大于10米，可容纳1300艘渔船同时锚泊，拥有3个万吨级远洋渔业专用码头及水产品专用装卸泊位系统，计划年吞吐量100万吨。基地冷藏库容35万吨，部分具有保税功能，并积极引进水产品加工和冷藏物流企业，力争建成全国最大的远洋渔业基地。

山东荣成沙窝岛国家远洋渔业基地于2016年获批建设，主要建设内容为“一地二港三区四园五中心”，“一地”指远洋船舶燃料、物资供应基地（免税）；“二港”指沙窝岛国家级中心渔港、艇装码头及海产品专用码头。该渔港已建成港池42公顷，可停靠渔船800艘至1000艘，并配套年修造船能力100万载重吨的船舶修造中心。该基地竣工后预计可完成水产品交易量60万吨/年，成为我国北方规模最大的现代化远洋渔业综合基地。

福建福州（连江）国家远洋渔业于2019年获批建设，按照“一港（现代化国际远洋渔业母港）、两园、三中心、四区”的总体规划精心打造。渔业母港规划岸线约2390米，规划锚泊水域面积约1446亩，配套建设国际水产品冷链物流中心、远洋渔业总部经济区、远洋渔业物资补给区、远洋渔业创新服务区，全力打造面向东南亚、辐射太平洋的国际远洋渔业母港。

远洋渔业是我国的战略性产业，远洋渔业母港作为远洋渔业的核心载体，是建设“海洋强国”、实施“走出去”战略和“一带一路”倡议的重要平台，对维护国家海洋权益具有重要意义，是推动海洋渔业产业结构升级和可持续发展的重要引擎。

Some pelagic fishing ports integrate functions of the fishing, commerce and tourism industry, which can drive the development of secondary and tertiary industries in the local area, and promote the prosperity of the regional economy.In terms of the 3 national pelagic fishery bases that have been approved at present, the pelagic fishery home port is usually the center of the base, and the corresponding functional areas, trading centers and industrial parks are built around the center to achieve the overall goal to drive the regional economic development by fishery.

Zhejiang Zhoushan National Pelagic Fishery Base was approved for construction in 2015, with the building of a modern and professional pelagic fishery home port, an international aquatic product town, a cold chain logistics area for pelagic aquatic product processing, and a building and repairing center for pelagic fishing vessels as the orientation of its functions. With the planned area of 3.5 square kilometers and the average water depth of over 10 meters, the harbor basin of the modern professional mother port of pelagic fishery allows 1300 fishing vessels to anchor at the same time, and it has 3 specialized wharfs for 10,000-ton pelagic fishing vessels and specialized handling and berthing systems for aquatic products, with planned annual throughput of 1 million tons. The cold storage capacity of the base is 350,000 tons, with several bonded cold storage rooms. Besides, the base is actively introducing enterprises engaged in aquatic product processing and refrigerated logistics, and striving to become China's largest pelagic fishery base.

Shandong Rongcheng Shawodao National Pelagic Fishery Base was approved for construction in 2016, and it mainly focuses on the building of a fuel and material supply base (duty free) for pelagic fishing vessels; the building of the Shawodao national central fishing port and outfitting wharf, and the specialized wharf for aquatic products; the building of the international comprehensive trade area for pelagic seafood, the public comprehensive bonded area, and the leisure fishery and service area; the building of pelagic seafood intensive processing park, the pelagic seafood cold-chain logistics park, the ecological tourism park for coastal leisure in the fishing port, and the repair and construction park for pelagic fishing vessels; as well as the building of the international pelagic fishery convention center, the international seafood container transport center, the pelagic seafood processing, inspection and research center, the pelagic fishery e-commerce center, and the pelagic fishing vessels inspection center. At present, a 42-hectare harbor basin has been built in this fishing port, where 800 to 1000 fishing vessels can berth at the same time. Besides, a ship repair and building center which can repair and build ships with a total deadweight of 1 million tons annually has been built. After the completion of the base, it is expected to complete the aquatic products trading volume of 600,000 tons annually, and to become the largest modern pelagic fishery comprehensive base in northern China.

Fujian Fuzhou (Lianjiang) National Pelagic Fishery Base was approved for construction in 2019, following the overall plan to build a modern international pelagic fishery home port; build an intensive processing park for pelagic aquatic products and an industrial park for marine biological products; build an international pelagic aquatic products trading center, an international aquatic products cold chain logistics center, and an international repair and building center for pelagic fishing vessels; and build a pelagic fishery headquarters economic zone, a pelagic fishery material supply zone, a pelagic fishery innovation service zone, and a pelagic fishery characteristic town. The planned coastline of the fishery home port is about 2,390 meters, and the planned mooring water area is about 1,446 mu (964,000 square meters). Efforts will be made to build it into an international pelagic fishery home port facing Southeast Asia and radiating the Pacific Ocean.

ANALYSIS ON THE PROSPECT OF DEVELOPING A TRADE CENTER OF AQUATIC AND SEAWATER PRODUCTS IN SHENZHEN

深圳发展水海产品贸易中心的前景剖析

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一、我国水海产品进口消费现状及趋势

1.发展现状

近十年来，随着我国经济社会的持续快速增长、人民收入水平的稳步提高，居民消费结构不断优化升级，进口消费品的需求也愈加旺盛，由此带动了进口消费品规模的持续增长。据海关统计，2018年，我国进口消费品1.22万亿元，比上年增长10.8%，占同期我国进口总值的8.6%。随着居民收入水平的提高，以家禽肉类为主的消费逐步调整为水海产品为主。从近几年的城镇居民消费结构来看，猪肉为主的牛羊肉等畜肉消费比重已经从过去的60%下降到50%以下。而水产消费品比重则从过去的23%提升至目前的30%。消费饮食结构的调整带动了我国进口水海产品的快速增长。根据国家海关统计，2019年1-9月份我国进口水海产品达到312万吨，764亿元，同比分别增长22.9%和20.8%。初步估计，2015年以来我国进口水海产品数量年均增长11%以上。具体数据详见表1。

	数量（万吨）	同比增长	金额（亿元）	同比增长
2015	271	-5.5%	407	-2.8%
2016	265	-2.4%	468	14.8%
2017	294	11.2%	559	19.6%
2018	340	15.0%	794	39.9%
2019.1-9	312	27.6%	764	35.9%

表1 近几年我国进口水海产品情况

进口水海产品的快速增长，使得水海产品占进口消费品的比重也呈稳步增长趋势，2017年占进口消费品总额的比重仅为5%，2018年增长到6.5%左右。按国家分类，俄罗斯、美国、加拿大、挪威、新西兰为我国进口海产的前五名，2018年，东盟后来者居上，尤其上半年对中国海产品出口超过俄罗斯，进口产品主要有虾、三文鱼、蟹。

进口水海产品稳步增长的主要原因除了收入水平提高和消费结构升级下带来国内消费需求的较快增长外，主要得益于我国全面扩大对外开放战略下进口关税的下调、双边及多边自贸协定的签署。自2017年6月我国首次降低部分消费品进口关税以来，多次涉及众多高档海鲜产品，澳洲的岩龙虾、金枪鱼甚至澳洲南方蓝鳍金枪鱼、鲍鱼等关税下降为零；此外帝鳐鱼、海鳗虾等海鲜产品也免除关税；而北极虾的关税也降低到2%。此外，我国目前已与25个国家和地区达成17个自贸协定。对于海产行业的自由贸易逐渐涉及多个国家如澳大利亚、新西兰、智利、秘鲁、东盟、冰岛等海洋资源丰富的国家及地区，进而促使海产品进口快速增长。

2.未来趋势

未来发展来看，2018年我国人均GDP达到9769美元，接近1万美元，按国际经验，已进入消费升级加速期。随着我国社会主义现代化强国建设的持续推进和两个一百年目标的实现，将持续推动我国消费经济的升级发展，居民消费潜力持续增强，消费市场继续扩容升级，将进一步促进消费品进口的增长，以进一步满足消费者对高品质、多样化商品的需求。

水海产品作为居民消费升级的一个方面，未来也将迎来快速发展趋势，根据农业部在其《2018-2027年农业展望》中预测，未来我国水海产品的消费量将从目前的人均11.5公斤增加到人均25公斤，城市地区将增加到人均30公斤，仍远低于日本目前人均65公斤的消费量。

现阶段我国水海产品无论是产量还是种类均远不能满足需求，必须通过进口满足一部分需求。未来，为满足居民日益提升的消费品质等需求，随着海鲜全球供应链体系的不断完善，加之扩大进口机制的建立（上海进口博览会）、降低进口消费品关税、跨境电商零售进口新政等政策的实施，未来我国进口水海产品市场前景将无限广阔。据安信证券的报告显示，2020年中国海鲜消费规模将超过2000亿元，另有机构预测2020年中国进口海产品消费需求将达到1000万吨。

二、深圳发展水海产品贸易中心的条件分析

1.广东进口水海产品基本情况

2017年广东省进口消费品总额约350亿美元，占全国20%左右。进口消费品中最大类别食品烟酒类占全国的24%，细分类别中：水果占46%、糕饼点心占44%、饮料和酒占31%、肉类占23%，水海产品占9%。

2018年广东省进口水海产品14亿美元，约20万吨，分别占当年全国进口水海产品金额和数量的12%和6%左右。与2010年相比，金额增长了3.6倍，而数量保持基本稳定。一方面显示了进口水海产品受各种政策因素限制总体处于被动发展状态，另一方面也显示了广东地区作为海洋大省对于水海产品的消费总体仍处于较低水平。

I.Status Quo and Trends of the Import and Consumption of Aquatic and Seawater Products in China

With the recent 10 years witness the sustaining and rapid growth of China's economy and society, steady climbing of residents' income, upgrading of residents' consumption structure, the demand for imported consumption products is on a rise, fueling the persistent uplift in imported consumption products. According to the statistics from the customs, in 2008, China's imported consumption products was worth 1.22 billion yuan, rising by 10.8% compared with the year before and accounting for 8.6% of the overall imported products. Thanks to the improvement of people's livelihood, the consumption structure has shifted its center of gravity from poultry to aquatic and seawater products (see Fig. 1). Judging from the consumption structure of urban residents in recent years, the percentage poultry consumption that consists of pork, primarily, and beef, lamb, etc. dropped from 60% to less than 50%, while that of aquatic products increased from last year's 23% to today's 30%. Such change of consumption structure in diet is promoting the fast growth of imported aquatic and seawater products. The statistics from the customs shows that from January to September, 2019, China's imported aquatic and seawater products hit 3.12 million tons, and is worth of 76.4 billion yuan, a rise of 22.9% and 20.8% respectively compared with the previous year. It is estimated that the average annual growth of imported aquatic and seawater products is over 11% from 2015 to up to date (see Table 1).

The rapid growth of imported aquatic and seawater products leads to the steady ratio increase of aquatic and seawater products in imported consumption products. In 2017, its share was merely 5%, rising to 6.5% in 2018. In the perspective of countries, Russia, the US, Canada, Norway and New Zealand were the top 5 sea food exporters to China. In 2018, a later comer gained the dominance. ASEAN, mainly exporting shrimps, salmons and crabs to China, surpassed Russia in the first half year.

Besides the fast growth of consumption demand because of income increase and upgrade of consumption structure, the steady uplift of aquatic and seawater products primarily stems from the cut on import duty and the signing of bilateral and multilateral free trade agreement under the backdrop of the strategy of opening-up further in all dimensions. Since June, 2017 when China cut its import tariff on some of the consumption products for the first time, there are records that many upscale sea food such as the Jasus lalandei, tuna form Australia, and even the bluefin tuna form north Australia, abalone and the like are free of import duty; In addition, sea food as silver pout and scampi are also exempt from customs duties; the tariff on Arctic shrimp is also reduced to 2%. Other than these, China has reached 17 free trade agreements with 25 countries and regions, covering countries and regions rich in marine resources such as Australia, New Zealand, Chile, Peru, ASEAN and Iceland. Such measures prompt the rapid development of sea food import.

In respect of future development, as China's per capita GDP reached 9,769 dollars in 2018, close to 10,000 dollars, international practice indicates that China is on the way of a consumption upgrade. With the continuous advancement of building China into a modern powerful socialist country and the realization of two hundred-year goals, China's consumption economy will be upgraded constantly, people's consumption potential will continue to increase, and the consumption market will keep expanding and upgrading, which will further grow consumer goods imports and further satisfy consumers' demand for high quality and diversified products.As a component of consumption upgrade, aquatic and seawater products will usher in a fast-paced development in the future. The Agricultural Outlook 2018-2027 by Ministry of Agriculture and Rural Affairs forecasts that the average consumption per person of aquatic and seawater products will rise from current's 11.5 kg to 25 kg and that in urban area will increase to 30 kg, still way less than the 65 kg per capita in Japan.

At present, domestic aquatic and seawater products are far from meeting the demand, both in terms of production and types. To fill the gap, import must be resorted to. In the future, in order to meet the increasing consumption demand of residents, global supply chain of seafood will be continuous improved, mechanism of further opening-up (Shanghai Import Expo) will be established, tariffs on imported consumer goods will be reduced, and new policies for cross-border e-commerce, retail imports and the like will be implemented. All these promise the tremendous future market potential of imported aquatic and seawater products. According to the report of Essence Securities, China's seafood consumption will exceed 200 billion yuan in 2020. Another institution predicts that China's consumption demand for imported seafood will reach 10 million tons in 2020.

II.Condition Analysis on Developing a Trade Center of Aquatic and Seawater Products in Shenzhen

1.Basic information about the imported aquatic and seawater products of Guangdong

In 2017, Guangdong's import volume of consumer goods was about 25 billion dollars, taking up 20% of the country. And food, tobacco and alcohol accounts for the largest percentage in imported consumer goods, which is 24%. To break it up further, fruits occupies 46%, cakes and snacks 44%, beverages and alcohol 31%, meat 23% and aquatic and seawater product 9%.In 2018, the imported aquatic and seawater products is worthy of 1.4 billion dollars, weighing about 200,000 tons, accounting for 12% and 6% of the country respectively. Compared with 2010, its value grows by 3.6 times while the weight rarely experiences fluctuate. This, on the one hand, demonstrates that the import of seafood is in a state of volatility due to polices, and one the other hand, that as a major marine province, Guangdong still has a relatively low level of seafood consumption.

Currently, among the main imported consumer goods of Guangdong, goods of low-value such as food, tobacco, alcohol, etc. are mainly transported by sea, which accounts for 64% or so; over 58% of aquatic and seawater food are imported by maritime transportation (see Fig. 2) and primarily shipped in the containers through Shenzhen's ports. In addition, as the transportation of aquatic and seawater products has tight time control, some of the products are transported by air.

2. Condition analysis on developing a trade center of aquatic and seawater products in Shenzhen

目前广东省主要进口消费品中，食品烟酒等较低货值的商品主要采用海运，约占64%；而水海产品的58%以上也主要通过海运进口，且主要通过深圳口岸的集装箱运输方式进口。此外，由于水海产品对于运输时效要求较高，因而除海运外的部分水海产品则主要通过航空运输完成。

2. 深圳发展水海产品贸易中心的条件分析

（1）广东省人口规模大，经济实力强，具有强劲的消费能力

得益于自然增长率以及省外人口的持续流入，2018年广东省常住人口规模达到11346万人，继续居全国首位，占全国人口总数的8.1%，占比稳步增长，人口密度为全国的4.35倍。其中，2018年全省跨省净流入总量为 1843.88万人，是全国净流入人口最大的省份，大规模的人口流入为广东经济持续快速发展创造了有利条件。2018年，广东GDP达到9.7万亿元，占全国的比重基本稳定在10%左右。

此外，广东省拥有全国仅次于北京市的中产阶级家庭户数，共576万户，占全省人口总数的17.35%。大规模的人口及中产阶级有力促进了区域消费经济的发展。2018年广东省社会消费品零售总额达到3.95万亿元，排全国各省第一位，是全国最大的消费市场之一，占全国的比重虽较2005年曾后略有下降，但仍高达10.4%，高于GDP及人口占比，显示了广东省强劲的消费能力。

未来，随着粤港澳大湾区发展规划上升到国家层面，粤港澳大湾区将继续成为引领我国经济社会持续发展、全面对外开放以及科技制度创新建设的排头兵。广东省作为我国最大的消费市场之一，伴随粤港澳大湾区打造成为世界级的城市群以及宜居宜业宜游的优质生活圈，良好的消费能力、巨大的高品质消费市场、便捷的对外贸易通道优势叠加，将进一步提升本区域消费品进口需求。

（2）珠三角区域是全省的经济中心和消费中心

分区域来看，珠江三角洲以占全省30.5%的土地面积，拥有55.5%的常住人口和63.7%的就业人员，创造了80.2%的GDP和84.7%的工业增加值，社会消费品零售总额占71.3%，常住居民人均可支配收入达到4.8万元，高于全省平均水平的1万元，是名副其实的区域经济中心、消费中心。

珠三角地区作为粤港澳大湾区的核心，随着国家自主创新示范区、中国特色社会主义先行示范区建设的稳步推进，将继续吸引资源要素以及人口的集聚发展，无论是经济实力还是居民消费能力仍将居于全省的主导地位。

（3）珠三角地区集聚了全省95%以上的进出口市场

根据海关统计，珠三角地区依托发达的外向型产业、良好的区位优势和交通枢纽地位，承担了全省96.8%的外贸进口额和95.1%的出口额，在广东乃至全国对外经济中具有举足轻重的地位。尤其是对于进口消费品而言，收货地主要集中在深圳（50%）和广州（34%）等珠三角地区。可见，虽然部分进口消费品通过深圳广州进口后再分拨中转至珠三角地区以及粤东西北地区，但按照人口及消费能力分布来看，总体的消费市场仍集中在珠三角地区。

（4）深圳辐射全球的航线网络

目前，广东口岸进口的水海产品主要通过海运和空运完成，两者分别约占进口总量的58%和24%。因此，是否具备发达的港口及航空枢纽网络对于发展水海产品交易中心具有重要作用。

深圳港作为全球第四大、国内第三大集装箱港口，承担了广东省48%以上的外贸集装箱运输需求。2018年，深圳港完成集装箱吞吐量2574万TEU，其中外贸集装箱2416万TEU，分别占全省的45%和70%。其中，国际航线2188万TEU，占全省的73%左右。目前深圳港共开通国际集装箱班轮航线240条，通往100多个国家和地区的300多个港口，形成了完善的航运网络，东盟、欧洲、美国、南美、澳大利亚等国际航线吞吐量在我国八大干线港中分别排第2、第3、第1、第3和第4位，显示了深圳港在远洋国际集装箱运输上的重要地位。

从航空枢纽来看，2017年，深圳宝安机场的旅客吞吐量及货邮吞吐量分别排全国第5位和第4位，其中，货邮吞吐量达到115.9万吨，2018年达到121.8万吨，同比增长5.1%。2019年，新增深圳直飞南非约翰内斯堡、以色列特拉维夫、爱尔兰都柏林、日本名古屋、越南云屯、罗马等国际航线，至此，深圳机场国际客运通航城市增至50个，洲际航线突破20条，国际航线网络通达性进一步完善。

（5）良好的政策创新优势

深圳作为我国第一个经济特区，经历三十年多的快速发展，目前已成为一座充满魅力、动力、活力、创新力的国际化创新型城市，经济发展水平在一线城市中保持领先地位，2018年人均GDP达到19.3万元，比广东全省高1.21倍，比北京和上海分别高37.9%和42.2%，是我国最早实现的小康城市。2019年，深圳建设第一个中国特色社会主义先行示范区上升到国家战略，在现有前海自贸区政策基础上，各种制度、政策创新优势将进一步显现，对于吸引国际要素和资源的集聚，发展国际贸易、分拨、配送具有重要保障。

综合上述分析，深圳依托珠三角地区发达的经济基础、庞大的人口规模、良好的消费能力、发达的运输网络以及良好的政策创新优势，必将在广东省及华南地区的水海产品进口及贸易中发挥重要作用。因此，在深圳构建水海产品贸易中心具有良好的基础和较大的可行性。

(1) Guangdong's Large population, potent economic strength and strong consumption ability

Thanks to the natural population growth rate and the constant inflow of people outside the province, Guangdong's population of long-term residents reached 113.46 million in 2018, ranking the first by accounting for 8.1% of national population. The percentage keeps steady growth and its population density is 4.35 times of national population. Specifically, it has the net cross provincial population inflow of 18,438,800, the largest among provinces. Massive population inflow brings about favorable conditions for the rapid and sustainable economic growth of Guangdong. In 2018, Guangdong's GDP hit 9.7 billion yuan, contributing about 10% to national economy as in previous years.In addition, second only to Beijing's, Guangdong's number of middle-class households hits 5.76 million and takes up 17.35% of the province's population. Large population and middle-class households serve as a great powerhouse for the development of regional economy. In 2018, its total retail sales of consumer goods was 3.95 trillion yuan, topping the country and making Guangdong the largest consumption market. Though its contribution to the country in this respect dropped a bit compared with the years around 2005, but still reached 10.4%, higher than its share of GDP and population and showing strong consumption capability.

In days ahead, as the development plan of Guangdong-Hong Kong-Macao Greater Bay Area becomes a national strategy, the Area will become the vanguard that leads the sustainable development of national economy and society, opening-up, and innovation of science and technology system. With Guangdong being the largest consumption market in China and the Greater Bay Area becoming a world-class city cluster and a high-quality living place that is agreeable to live, work and travel, good consumption ability, tremendous high-quality consumption market and convenient channel to foreign trade will work together to further stimulate the demand for the import of consumer goods.

(2)The Pearl River Delta being Guangdong's economic and consumption center

As for regions, the Pearl River Delta occupies 30.5% of Guangdong's land area, 55% of permanent residents' population, 63.7% of employment, 71.3% of the total retail sales of consumer goods, and creates 80.2% of the total GDP and 84.7% of industrial value added. Its per capita disposable income of permanent residents reached 48,000 yuan, about 10,000 yuan higher than provincial average. It is undeniably a regional economic and consumption center.As the construction of national independent innovation demonstration zone and pilot demonstration area of socialism with Chinese characteristics make steady headways, the Pearl River Delta region, as the core of Guangdong-Hong Kong-Macao Greater Bay Area, will continue to attract resources and the enhancement of population agglomeration. It will lead the province both in economic strength and residents' consumption ability.

(3) The Pearl River Delta attracting over 95% of Guangdong's import and export markets

According to customs statistics, relying on developed export-oriented industries, advantage in geological location and transportation hubs, the Pearl River Delta region has contributed 96.8% to the province's import volume and 95.1% to its export volume. Thus, the Region plays an important role in Guangdong's and even and the country's foreign trade. For imported consumer goods particularly, the places of receipt are in the Pearl River Delta region such as Shenzhen and Guangzhou, as shown in Fig. 5. It can be concluded that although some imported consumer goods are imported at Shenzhen and Guangzhou, and then transferred to the Pearl River Delta region and eastern and western Guangdong, the main consumption market is still the Pearl River Delta region in consideration of the distribution of population and consumption capability.

(4) Shenzhen's transportation network radiating the globe

At present, the aquatic and seawater products imported into Guangdong's ports are mainly transported by sea and air, accounting for 58% and 24% of import volume respectively. Therefore, a well-developed port and aviation network plays a significant role in developing the trade center for aquatic and seawater products. As the fourth largest container port in the world and the third largest in China, Port of Shenzhen handles over 48% of Guangdong's demand for container transport of foreign goods. In 2018, the container throughput of the Port reached 25.74 million TEU, including containers for foreigner goods of 24.16 million TEU, taking up 45% and 70% of the province's total respectively. Among them, international routes handled 21.88 million TEU, about 73% of the total. Currently, the Port of Shenzhen has put in place a complete transportation network with 240 international shipping services connecting to over 300 ports in more than 100 countries and regions. The throughput of international shipping services to ASEAN countries, Europe, the US, South America, and Australia ranks the 2nd, 3rd, 1st, 3rd and 4th respectively in China's eight key ports, a show of the Port's paramount position in international container transport. As for aviation hub, in 2017, the passenger throughput and cargo and mail throughput of Shenzhen Baoan International Airport ranked the 5th and 4th. To be specific, cargo and mail through reached 1.159 million tons in 2017 and 1.218 in 2018, an increase of 5.1% year-by-year. In 2019, new direct flights from Shenzhen to Johannesburg of South Africa, Tel Aviv of Israel, Dublin of Ireland, Nagoya of Japan, Van Don of Vietnam, Rome and others were opened. So far, the operational scope of Shenzhen Baoan International Airport has been further expended with international passenger flights traveling to 50 cities and the number of intercontinental lines exceeding 20.

(5). Excellent advantage in policy innovation

As China's first special economic zone, Shenzhen has become an international and innovation city overflowed with charm, motivation, verve and innovation after 30 years' quick development. Its economic development maintains a leading position among first-tier cities. In 2018, its annual per capita GDP reached 193,000 yuan, 1.21 times higher than that of Guangdong, 37.9% and 42.2% higher than that of Beijing and Shanghai respectively. As a consequence, it is the first well-off city in city. In 2019, building Shenzhen into the first pilot demonstration zone of socialism with Chinese characteristics is prioritized to be a national strategy. Based on the existing Qianhai Free Trade Zone, other advantages in institutional and policy innovation will become more evident and play an important role in ensuring its attraction to international elements, resource agglomeration, and the development of international trade, distribution and delivery.

In a word, counting on the developed economic foundation the Pear River Delta Region, large population, excellent consumption capability, complete transportation network and sound advantage in policy innovation, Shenzhen will pally a major part in the import and trade of aquatic and seawater products in Guangdong and South China. Therefore, building a trade center of aquatic and seawater products in Shenzhen is solidly grounded and highly viable.

THE PROSPECT OF INTERNATIONAL TUNA TRADE

国际金枪鱼交易产业的未来展望

文/朱俊俊
By Zhu Junjun

金枪鱼被誉为海上黄金，凭借其柔嫩、鲜美的肉质，较高的蛋白质含量，以及富含的不饱和脂肪酸、维生素、蛋氨酸、矿物质等，被国际营养协会推荐为绿色无污染的健康美食。凭借较高的经济价值、较广的分布范围、丰富资源储量等优势，金枪鱼类成为当今世界远洋渔业发展的关注重点和国际水产品贸易的主要鱼种，在世界水产品贸易中扮演重要角色，主要金枪鱼类的产量自20世纪50年代初起呈不断增长的趋势，从主要金枪鱼渔场所在的各个海域来看，我国也均有捕获金枪鱼，《中国渔业统计年鉴》数据显示，2018年我国金枪鱼海洋捕捞产量达到5.5万吨。

2013-2018年我国金枪鱼海洋捕捞量

数据来源：中国渔业统计年鉴

随着人均收入的增长和饮食习惯的改变，食物消费面临着结构性的转变，含蛋白质更高的鱼类食物更加受到消费者的青睐，金枪鱼交易产业也面临着新的机遇。

一、金枪鱼资源概况

金枪鱼类，属硬骨鱼纲、鲈形目，也称吞拿鱼、鲔鱼，是分布在中、低纬度洋区或外海的大、中型中上层鱼类，属大洋性洄游鱼类的金枪鱼类，分布范围十分广阔，在太平洋、印度洋和大西洋均有分布，金枪鱼主要依靠野生的种群资源，虽为可再生资源，但容易受外部环境的影响，导致波动性较大，资源量在很大程度上也影响着金枪鱼的生产和贸易，影响着金枪鱼的市场情况。

从国际主要金枪鱼的渔获量来看，从上世纪60年代到近几年期间，全球金枪鱼年平均渔获量为219.29万吨，其中鲣鱼、黄鳍金枪鱼、大眼金枪鱼、长鳍金枪鱼、大西洋蓝鳍金枪鱼、南方蓝鳍金枪鱼、太平洋蓝鳍金枪鱼的年平均渔获量分别为106.2万吨、68.48万吨、21.89万吨、14.92万吨、2.85万吨、2.75万吨和2.22万吨。前4种金枪鱼的资源量较为

Known as the gold of the sea, tunas are recommended by the International Nutrition Association as green and healthy food for having tender and delicious meat, high protein, and rich unsaturated fatty acids, vitamins, methionine, minerals and so on. Because of high economic value, wide distribution and rich reserves, tunas have become the focus of the world's pelagic fishery and one of the main fish species of international aquatic product trade, playing an important role in the world aquatic product trade. The production of major tuna species has been increasing since the early 1950s. Given the area where major tuna fisheries are found, tunas are also caught in China. According to China Fishery Yearbook, China's tuna production reached 55,000 tons in 2018. A shift in food consumption is underway brought by per capita income increase and dietary habits change. Higher protein fish is becoming more popular among consumers, thus new opportunities arise in tuna trade.

I The Resources of Tunas

Tunas, in osteichthyes and perciformes, are large and medium-sized pelagic fishes distributed in the middle and low latitudes of the ocean or in the open sea. Widely distributed in the Pacific, Indian and Atlantic Ocean, tunas are oceanic migratory fishes. They are wild resources. Although renewable, they can be easily affected by the environment, leading to high volatility in production. To a large extent, the amount of resources affects the production, trade and market of tunas.

In terms of tuna catch, the global average annual catch of tunas was 2.1929 million tons from the 1960s to the recent years. The average annual catch of bonito, yellowfin, big-eye, albacore, Atlantic bluefin, southern bluefin, and Pacific bluefin tuna was 1.062 million tons, 684,800 tons, 218,900 tons, 149,200 tons, 28,500 tons, 27,500 tons, and 22,200 tons respectively. The first 4 species mentioned above are relatively rich, with the total annual catch up to 96.43%, while the rest are scarce, accounting for less than 5%. The ranking by the richness of fishery resources is bonito, yellowfin tuna, big-eye tuna, albacore tuna, Atlantic bluefin tuna, southern bluefin tuna and Pacific bluefin tuna.

With the rapid development of pelagic fishing technology, increasing market demand and rising fishing intensity, tuna resources will face the risk of decline.

II The Production of Tunas

From the perspective of global tuna production, tunas mainly come from oceanic fishing, cultivation accounting for a very small proportion. Since the 1950s, thanks to the development of fishing equipment, fish detection and other technologies, the catch of tunas began to rise rapidly: in 1950, the global catch was only about 400,000 tons, but in recent years, it exceeded 5 million tons, with a growth rate of more than 1,000%. Relevant to national maritime rights and interests, economy and people's livelihood, tuna fishery is crucial to industrial development in some countries and coastal areas.

丰富，年平均渔获量占比之和高达96.43%，后3种金枪鱼较为稀缺，仅占不到5%。从渔业资源丰富程度来看，依次为鲣鱼、黄鳍金枪鱼、大眼金枪鱼、长鳍金枪鱼、大西洋蓝鳍金枪鱼、南方蓝鳍金枪鱼、太平洋蓝鳍金枪鱼。

随着远洋捕捞技术的快速进步以及市场需求的不断扩大，捕捞强度不断增加，金枪鱼资源将面临衰退的风险。

二、金枪鱼生产概况

从全球金枪鱼的生产来看，金枪鱼类主要来自大洋性捕捞和近洋性捕捞，养殖占比极小。从20世纪50年代开始，得益于渔船装备、鱼群探测等技术的发展，金枪鱼类的渔获量开始迅速提升：1950年全球渔获量仅约40万吨，近几年则超过了500万吨，增长率超1000%以上。金枪鱼渔业关乎国家海洋权益和经济民生，是部分国家和沿海地区产业发展的重要目标，除日本、美国、法国等传统远洋渔业大国外，近几十年，中国、韩国、印尼、泰国等亚洲国家在金枪鱼渔业的发展上也开始崭露头角，参与捕捞金枪鱼的国家或地区也从1950年最初的37个增加到现在的170个。

从历年金枪鱼渔获量占比来看，全球范围内排名前十的国家或地区分别为日本、印度尼西亚、美国、中国台湾、西班牙、菲律宾、韩国、法国、厄瓜多尔和墨西哥，以上国家

In addition to Japan, the United States, France and other old pelagic fishing countries, China, South Korea, Indonesia, Thailand and other Asian countries has begun the development of tuna fishery in recent decades. The number of countries or regions participating in tuna fishing has grown from 37 in 1950 to 170 now.

In terms of the proportion of tuna catches over the years worldwide, the top 10 countries or regions are Japan, Indonesia, the United States, Taiwan, Spain, the Philippines, South Korea, France, Ecuador and Mexico. Catches of the above countries accounts for 81.35% of the total. Japan accounts for more than 25%. It is notable that countries with a long history of tuna fishing, such as Japan, the United States, Spain, France and other countries, have begun to show a trend of gradual decline due to rising labor costs, increasingly strict international fishery management and other reasons. This has brought opportunities for emerging countries like Indonesia, China, Ecuador and the Philippines. These countries have enjoyed growing tuna catches and narrowed their differences from countries with large tuna catches as a result of more advanced fishing technologies and more and cheaper labor.

III The Consumption of Tunas

Fresh or refrigerated seafood is the most popular and valuable kind of seafood, as well as frozen, dried, salted, smoked or other processed products. Different types of tunas correspond to different processing and consumption mode.

的渔获量占国际总渔获量比重高达81.35%，其中日本的渔获量占比超过25%，值得注意的是，金枪鱼渔获历史较久的国家，如日本、美国、西班牙、法国等国，出于劳动力成本上升、国际渔业管理日趋严格等原因，其金枪鱼渔获量已经开始呈现出逐渐下降的趋势，这为印度尼西亚、中国、厄瓜多尔、菲律宾等新兴国家提供了更多的空间和机遇。这些新兴国家由于采用了更先进的捕捞技术、拥有更多更廉价的劳动力资源，金枪鱼渔获量总体呈上升趋势，不断缩小与传统金枪鱼捕捞大国的差距。

三、金枪鱼消费概况

对直接供人食用的水产品的处理方法中，生鲜或冷藏是最受欢迎、价值最高的产品形式，此外，还包括冷冻、干制、盐渍、烟熏或其他加工产品。因金枪鱼的种类不同，相应的加工方式和消费状况也有较大差异。

生鲜与冷藏：由于金枪鱼主要用于制作罐头或寿司，因此，金枪鱼进口量中，冷冻产品和加工产品的占比较大，在经过生鲜和冷藏处理后用于制作生鱼片，用作该用途的金枪鱼主要包括大西洋蓝鳍金枪鱼、南方蓝鳍金枪鱼、大眼金枪鱼和成体黄鳍金枪鱼等。日本、美国、泰国是全球冷冻、冷藏金枪鱼的主要消费国。受传统文化影响，日本认为对食物的加工越少越好，因此日本成为了世界上最主要的生鱼片消费市场，金枪鱼年均消费量高达80万吨，每年还需要进口20-30万吨金枪鱼来满足国内需要。

冷冻：进口冷冻金枪鱼主要用来加工制作金枪鱼罐头，用于该用途的金枪鱼主要为鲣鱼、幼体黄鳍金枪鱼、长鳍金枪鱼。美国和欧洲是金枪鱼罐头的主要消费市场，罐装金枪鱼在美国和欧洲主要用来制作三明治、沙拉等。美国、英国、法国、意大利、德国、西班牙、加拿大和日本这8个国家年均进口量占到总量的约67%。

随着金枪鱼在世界范围内普及以及加工技术的发展，越来越多国家的消费者开始食用加工的金枪鱼产品，其他国家进口量不断上升，金枪鱼国际消费市场不断打开。

四、金枪鱼贸易概况

从进出口规模来看，随着金枪鱼渔获量的日益增长，相应的世界主要金枪鱼类进出口量也呈现出总体上升趋势，在1976年-2013年期间，全球金枪鱼出口量从38.76万吨增长到313.89万吨，进口量从51.54万吨增长到354.45万吨；相应地，出口总额和进口总额分别由最初的3.87亿美元、5.87亿美元增长到127.24亿美元、149.71亿美元。

Fresh or refrigerated: Tunas are used mainly for canned food or sushi, therefore frozen and processed products account for a large proportion of tuna imports. Tunas used to make sashimi after being processed or refrigerated include the south Atlantic bluefin tuna, bluefin tuna, bigeye tuna, and adult yellowfin tuna, etc. Japan, the United States and Thailand are the world's major consumers of frozen and refrigerated tuna. Influenced by traditional culture, Japanese believe that the less food is processed, the better. As a result, Japan has become the world's major market for sashimi with an annual consumption of 800,000 tons of tunas. An additional 200,000 to 300,000 tons of tunas are imported each year to meet domestic demand in Japan.

Frozen: Imported frozen tunas are mainly used for making canned tunas, including bonito, juvenile yellowfin tuna and albacore tuna. The United States and Europe are the major markets for canned tunas, used in sandwiches, salads, etc. The annual imports of eight countries – the United States, Britain, France, Italy, Germany, Spain, Canada and Japan, accounted for about 67 percent of the total.

With the worldwide popularity of tunas and the development of processing technologies, consumers in more and more countries begin to eat processed tuna products. Tuna import of other countries is increasing. The international market of tunas is promising.

IV The Trade of Tunas

From the perspective of import and export, with tuna catch increasing, the import and export of the world's major types of tunas is rising. From 1976 to 2013, the global export of tuna increased from 387,600 tons to 3.1389 million tons, and the import grew from 515,400 tons to 3.5445 million tons. Accordingly, total export of tunas grew from 387 million dollars to 12.724 billion, total import from 587 million dollars to 14.971 billion dollars.

In terms of product structure, the main products of tunas in the world are mainly frozen, processed, fresh or refrigerated, accounting for 60%, 35% and 5% respectively. Due to the scarcity of Atlantic bluefin tuna, the quantity is unstable, resulting in a very low proportion of fresh fish trade.

From the perspective of trade value, with the application of deep processing technology, the added value of tunas increases day by day, improving the overall output value. The development of tuna processing has great significance for promoting the development of tuna fishery. Due to the high technical requirements for fresh and refrigerated tunas and the limited resources of Atlantic bluefin tuna, fresh or refrigerated tuna exports changed little.

As for the structure of trade countries, export powers are mainly from Europe and East Asia. Indonesia, Mexico, Japan, Taiwan, Spain and the United States are big exporters of fresh or refrigerated tunas. The biggest exporters of frozen tunas are Thailand, Taiwan and South Korea. In recent years, Thailand and Indonesia has shown an obvious

从贸易产品结构来看，世界主要金枪鱼类的贸易产品主要为冷冻、加工产品以及生鲜或冷藏三种方式为主，三者的占比分别为60%、35%、5%；因大西洋蓝鳍金枪鱼品种较为稀缺，资源量不稳定，导致活鱼贸易量占比极低。

从贸易值来看，随着精深加工技术的不断应用，金枪鱼的附加值日渐提升，也提高了金枪鱼的整体产值。金枪鱼加工产业的发展对于促进金枪鱼渔业的发展具有重要的现实意义；因生鲜和冷藏对技术的要求较高，再加上大西洋蓝鳍金枪鱼资源有限，生鲜或冷藏出口量变动较小。

从进出口国的结构来看，出口大国主要集中在欧洲和东亚地区。印度尼西亚、墨西哥、日本、中国台湾省、西班牙、美国等是生鲜或冷藏的金枪鱼贸易市场上的出口大国。冷冻金枪鱼出口量较高的是泰国、我国台湾省和韩国；近年来随着泰国和印度尼西亚的金枪鱼加工技术和捕捞技术的发展，这两个国家出口量呈现出明显的上升趋势，在金枪鱼的出口贸易中占据重要地位，其中泰国自1984年开始稳居第一，其加工产品平均年出口量占总量的40%。

从产地市场占有率来看，在金枪鱼渔业资源的国际竞争中，我国在金枪鱼的捕捞环节占有率不断提升，说明参与分配金枪鱼资源的竞争实力在不断提升；而日本虽然占有率略有下降，但是仍具有较强的资源分配实力；泰国在金枪鱼渔业资源的分配上明显不具备优势。尽管泰国每年出口的金枪鱼在世界市场上极具竞争力，但是泰国的金枪鱼资源主要来自进口，泰国的金枪鱼加工产业受国际环境影响较大。印尼在近10年积极参与到世界金枪鱼渔业资源的分配中，利用其地理位置等优势，不断提高本国金枪鱼渔获量，极大促进了该国金枪鱼渔业的发展。

从出口市场占有率来看，我国金枪鱼出口市场占有率呈上升趋势，已占到世界出口总额的二十分之一，说明我国金枪鱼的出口竞争力不断提升，我国与印尼的出口额水平相当。而泰国在金枪鱼的出口上一直保持较强的竞争力，金枪鱼产品出口占有率最高时占世界的五分之一以上。但随着近几年出口市场结构的变化，竞争越发激烈，泰国市场份额有所下降。我国台湾省的出口竞争力也较强，近几年也有下降趋势。日本金枪鱼产品的出口竞争力不强，可能是金枪鱼产品主要用于国内消费，出口较少所致。

五、金枪鱼交易产业的发展前景

在金枪鱼产品的消费方面，如泰国、印度尼西亚等新兴国家，凭借其低廉的劳动力成本优势，水产出口持续快速增加。由于消费结构和饮食习惯的改变，以及人们对健康和环保的重视，相对于近海产品和海水养殖产品，金枪鱼及其加工产品被更多的消费者接受，但考虑到金枪鱼资源的衰退性，国际渔业资源争夺和渔业利益冲突更加激烈，通过市场措施打击非法捕捞等新制度的实施和远洋渔业配额管理制度日趋严格，金枪鱼价格可能会出现波动。

在金枪鱼渔业的市场结构方面，随着全球范围内渔业资源的国际化程度不断提高，金枪鱼国际捕捞的垄断性局面已经被打破。更多的新兴国家参与到产地市场和进出口市场的竞争中来。在此背景下，金枪鱼生产和贸易的垄断不断下降，竞争的有效性和激烈性不断加强，有利于金枪鱼渔业的持续性发展。

在国际渔业市场的贸易壁垒方面，西方发达国家制定了更加严格的环保法规、技术标准和检验制度，对金枪鱼产品的质量提出了更高的要求；对渔业资源的限制性开发也进一步限制了金枪鱼捕获量的增长。此外，随着中美贸易战的持续存在，中美之间的金枪鱼贸易大幅度下降，这对金枪鱼产业造成了不可估量的伤害，也推动了世界金枪鱼进出口格局的转变，将有助于泰国金枪鱼的加工及出口贸易。

最后，从中国金枪鱼交易产业的发展前景来看，需重点关注生产、进口及出口三个方面。第一，从国内金枪鱼生产来看，未来中国金枪鱼产量仍将保持较快增长。在中国低廉的劳动力成本和国家对远洋渔业的大力支持下，全球金枪鱼捕捞行业正在陆续由日韩等国转向中国，2018年，中国金枪鱼行业产量增至30.63万吨，且我国从事金枪鱼远洋捕捞的企业所拥有的大型超低温金枪鱼延绳钓船总数仍在不断上涨，预计到2024年，中国金枪鱼行业产量将达到44.53万吨，同比增长5.8%；第二，从国内金枪鱼的进口来看，市场结构正在快速发生变化，东盟的出口渗透将会持续加大。中国经济的迅速崛起改变了传统的金枪鱼消费市场，消费市场容量将不断扩大，消费区域将从前期的沿海市场继续向中部、西部市场扩散。因东盟各国对中国出口的冷冻金枪鱼鱼片产品享受免税政策，东盟国家对中国金枪鱼出口将继续增长，其中越南对中国市场的渗透会进一步加深，在出口中所占份额将高达65%以上；第三，从国内金枪鱼出口来看，中美贸易战的不确定性或将持续影响对美出口，欧盟将是未来中国金枪鱼出口的重点区域，但现行关税制度下欧洲市场的扩大仍面临诸多限制。日本、欧洲和美国是当前世界金枪鱼产品消费的三个主要市场，日本是世界上最大的金枪鱼捕捞国家和最大的金枪鱼消费国，美国则是世界上最大的金枪鱼进口国和金枪鱼罐头生产国，受中美贸易战的影响，中国向美国出口金枪鱼的整体局势发生变化，预计2019年全年向美国出口的金枪鱼价值不到250万美元。与此同时，近几年中国对欧盟金枪鱼的出口量增速明显，欧盟市场将是未来中国金枪鱼出口的重点市场，但因为欧盟限定，与没有签署自由贸易协定的国家的可零关税交易出口数量不超过5万吨，这进一步限制了中国金枪鱼的出口。

rising trend of tuna export volume and occupied an important position in tuna export due to the development of processing technology and fishing technology. Thailand has ranked the first since 1984, and its average annual export of processed tuna products accounts for 40% of the total.

From the perspective of market share, China's share of tuna fishing keeps increasing, indicating that China's competitive strength in the allocation of tuna resources is enhancing. Although Japan's market share declined slightly, it still had a strong strength. Thailand has no obvious advantage in this regard. Although tunas exported from Thailand are very competitive in the global market, they are mainly imported, and Thailand's tuna processing is greatly affected by the international environment. Indonesia has taken an active part in the allocation of tuna fishery resources in the past decade. By utilizing its geographical position and other advantages, Indonesia has continuously improved its tuna catch and greatly promoted the development of its tuna fishery.

In the aspect of the share of tuna export, China is on the rise, accounting for one twentieth of the world's total, indicating that China's competitiveness in the export of tuna is improving. China's export volume is on a par with Indonesia's. However, Thailand has always maintained strong in tuna export, accounting for more than one-fifth of the world's total. However, with the change of export market structure in recent years, the competition has become increasingly fierce and the market share of Thailand has declined. Taiwan is also strong, but in recent years it also has a downward trend. The export of Japanese tuna products is not large, maybe because that tuna products in Japan are mainly for domestic consumption and little for export.

V The Prospect of Tuna Trade

As for tuna products consumption, emerging countries like Thailand and Indonesia has enjoyed rapid increase in aquatic products export by virtue of low labor costs. Due to changes in consumption structure and dietary habits, as well as people's attention on health and environmental protection, tunas are accepted by more consumers compared with offshore products and mariculture products. However, given that tuna resources are declining, the competition for international fishery resources and the conflict of fishery interests are becoming more intense, and the implementation of new systems, like illegal fishing combating through market measures and the increasingly strict management system of pelagic fishery, the pricing of tunas may fluctuate.

In terms of the market structure of the tuna fishery, with the increasing internationalization of global fishery, the monopoly of international tuna catch has been broken and more emerging countries have participated in the international market. In this context, barriers to tuna production and trade are falling and the market is becoming more effective and vigorous, which is conducive to the sustainable development of tuna fishery.

In terms of trade barriers in the international fishery market, developed countries have formulated stricter environmental protection regulations, technical standards and inspection systems, and imposed higher requirements on the quality of tuna products. The limited exploitation of fishery resources has further limited the growth of tuna catch. In addition, as the trade war between China and the United States continues, the tuna trade between the two countries has declined significantly. This has caused immeasurable damage to the tuna industry but promoted the transformation of the global tuna trade, which will help Thailand's tuna processing and export.

Last but not least, from the perspective of China's tuna trade, we should focus on production, import and export. First, China's production of tunas will remain a rapid growth in the future. Due to low-cost labor and China's support for pelagic fishery, global tuna catches are shifting from countries like Japan and South Korea to China. In 2018, China's production grew to 306,300 tons. The number of large low temperature tuna fishing boats owned by Chinese enterprises engaged in tuna fishing is on the rise. It is predicted that China's tuna production by 2024 will reach 445,300 tons with a year on year growth rate of 5.8%. Second, with market structure changing rapidly, import from ASEAN will be increasing. The rise of the Chinese economy has changed the tuna market. Tuna consumption will be growing and the market will expand from coastal area to the middle and west areas. As frozen tuna fillets exported from ASEAN countries to China enjoy duty-free policy, tuna export from ASEAN countries will continue to grow, and Vietnam will enjoy more market share of the Chinese market, as high as more than 65%. Third, in terms of China's tuna export, the uncertainties brought by China-US trade war may influence China's export to US continuously. EU will be a major market of China's tuna export. But under current tariff regime, the expansion of the EU market faces many restrictions. Japan, Europe and US are the three major markets of world tuna products. Japan is the country with the largest tuna catch and consumption. US has the largest tuna import and canned tuna production. Affected by China-US trade war, China's export of tunas to US will charge. Less than $2.5 million of tunas is expected to be exported to the US from China throughout 2019. Meanwhile, as China's tuna export to the EU grew significantly in recent years, EU will be a major tuna export market in the future. But because EU stipulated that zero-tariff export from countries that have not signed free trade agreement with EU should not exceed 50,000 tons, China's tuna export is further restricted.

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自动化集装箱码头专题报告之一

——深度解析自动化集装箱码头

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编者按：由盐田港集团负责中标建设的深圳港盐田港区东作业区集装箱码头工程是深圳市“十三五”重大项目。2018年11月《深圳港盐田港区东作业区集装箱码头工程工程可行性研究报告》（简称《工可报告》）完成编制和专家评审。该项目的建设积极响应智慧城市建设号召，设计应用ASH自动化集装箱码头配置方案，实现岸桥装卸船、水平运输、堆场作业三个环节的自动化作业，先行启动的东作业区中段将打造3个全球领先的20万吨级泊位。本期开始，“论坛”栏目将陆续刊登自动化集装箱码头方面的专题研究成果系列文章，本文是基于《工可报告》的研究成果。

面对全球工业4.0和“互联网+”的发展趋势，自动化集装箱码头成为了智慧港口当前及未来发展的一个重点。截至2017年底，全球已建和在建的自动化集装箱码头共计51个，其中，以堆场自动化装卸为核心的半自动化码头共36个，以全过程自动化装卸为核心的全自动化码头共15个。我国厦门港、青岛港和上海港均已建成自动化集装箱码头，促进了港口的转型升级。

自动化集装箱码头是在综合应用人工智能、运筹学和系统工程理论的基础上，采用自动化作业设备及配套的管理和控制软件，形成的一个完整的集装箱装卸作业工艺系统。该系统可以全部或部分替代通常需要由人工控制的复杂的集装箱搬运和装卸作业，码头现场需要配备的生产人员大量减少。目前，自动化集装箱码头一般可以实现集装箱堆场作业和水平运输的全自动化，岸边集装箱起重机装卸船作业半自动化。

一、自动化集装箱码头国内外发展现状

自动化集装箱码头发展迄今已有30多年的历史，其发展过程大致可分为四代：

1. 第一代自动化集装箱码头的特点主要为岸桥采用传统单小车形式，装卸点仅在轨距内，自动导向车（AGV）以固定路线运行，堆场每个箱区布置1台自动化轨道吊（ARMG），以1993年投入运营的荷兰鹿特丹港ECT码头为代表。

2. 第二代与第一代相比，岸桥采用了双小车形式，装卸点由轨距内变到后伸距下；水平运输工具AGV以灵活路线运行，有效避免了从端部进入岸桥轨内转弯处的拥堵；堆场每个箱区内以穿越式布置2台大小跨ARMG。主要以2002年投入运营的德国汉堡港HHLA-CTA码头为代表。

3. 第三代与第二代相比，每个箱区以背力式对称布置2台ARMG，装卸效率和堆场土地利用率得到提高。其中，2008年投入运营的荷兰鹿特丹港Euromax码头是第三代的典型代表。

4. 第四代与第三代相比，引入提升式AGV或AGV伴侣，解决水平运输环节和堆场装卸环节的耦合问题，码头内装卸设备由内燃机驱动发展为纯电力驱动，节能环保和智能化程度都得到了很大提高。青岛港和洋山港均是应用第四代自动化技术集装箱码头的典型代表。

自动化码头装卸工艺也出现了其他发展方向，其中，最具影响力的是“改进型单小车岸桥+跨运车+2台ARMG对称布置”装卸工艺模式，其特点是：（1）单小车岸桥作业范围从轨距下延伸到后伸距下方；（2）跨运车实现了水平运输环节与装卸船环节及堆场装卸环节的双边解耦；（3）传统跨运车发展为轻型跨运车（SC），只运不堆，提升高度“堆一过一”。

自动化集装箱码头技术已由最初的无人化操作向高效化和智能化方向发展，主要发展方向表现在下述几个方面：（1）岸桥装卸船环节自动化操作技术的突破、自动拆锁销技术适用性的扩展等，多维度、更大程度的提高码头装卸效率和自动化水平；（2）基于高精度定位技术的自动化跨运车和基于图像识别技术的无人驾驶集卡将作为未来水平运输工具的发展方向；（3）以现代信息技术为支撑，由后台统一调度港内设备向单机设备智能化自主运作转变，作为调度系统的发展方向。

二、自动化集装箱码头的优缺点

相对于传统的集装箱码头，自动化集装箱码头的主要优点表现为：（1）减少天气等原因对操作的影响，实现全天候24小时作业；（2）最大限度减少人机接触，降低安全生产风险；（3）降低劳动强度，减少人为因素产生的差错；（4）缓解招聘技术工人的压力，大幅减少码头操作人员数量，降低人工成本；（5）采用纯电力驱动，节能环保；（6）理论装卸效率高，运营效率稳定；（7）堆场优化分配，具备自动翻箱能力，提高堆场利用率的稳定性；（8）故障率低，降低维修成本；（9）提高港口综合服务水准、增强核心竞争力。

同时，自动化集装箱码头也存在着以下缺点及问题：

1. 投资成本高

自动化集装箱码头建设成本较传统码头高，机械设备、软件系统价格昂贵，对地基沉降、码头结构要求更高，土建项目投入增大。

2. 目前自动化码头的实际作业效率尚低于传统人工码头

影响自动化集装箱码头整体作业效率的关键是水平运输环节，采用AGV作为水平运输工具，受定位技术与调度系统水平影响，实际运行效率与理论效率差距较大，整体装卸效率尚低于传统人工码头（青岛前湾西期码头最高28move/h的装卸效率低于YICT 35move/h的人工操作效率）；另外，采用跨运车的整体装卸效率较高，但目前跨运车无人驾驶技术尚不成熟，多采用人工驾驶，国内供应商对跨运车及其控制系统尚在研发中，暂无应用实例，而国际供应商价格昂贵。

3. 尚未实现完全意义上的全自动化

岸桥装卸船环节及拆装集装箱锁销需要人工干预，即使是自动化程度最高的堆场作业环节，箱区内的冷藏箱仍离不开人工插拔电源。

三、自动化集装箱码头建设必要性

自动化集装箱码头能够利用大数据时代的信息技术结合人工智能，提高装卸系统的可靠性和稳定性，提高设备利用率，避免设备无效运行，实现节能减排。通过人机分离、远程监控等操作手段，可提高生产安全性、降低人员劳动强度，极大地改善职业卫生条件。自动化技术的应用近大量减少了较低技术水平的人力资源需求，降低了劳动力成本，在人口递减、劳动力成本高和熟练劳动力匮乏的地区得到迅速发展。随着智能化技术的发展，集装箱码头向自动化、智能化方向发展已是大势所趋。

四、自动化集装箱码头的相关技术

自动化集装箱装卸系统主要由三个作业环节组成：由集装箱装卸桥（简称“岸桥”）组成的码头装卸船环节，由轨道式集装箱龙门起重机（简称“轨道吊”）为主要代表的集装箱堆场装卸环节，由自运动导引运输车（AGV）或跨运车（SC）组成的码头与堆场间的水平运输环节。其中：轨道吊相对容易实现自动化作业，因此自动化集装箱码头的最低标准就是堆场作业的自动化；水平运输的自动化由于涉及许多随机的路由决策和交通规划等智能化问题，需要高度可靠的自动定位、大容量信息处理和无线通信技术支撑，与堆场自动化相比技术难度较大，是影响码头装卸效率的主要瓶颈。三个作业环节中实现自动化难度最大的是装卸船作业，主要由于船舶在波浪和风载情况下的运动具有不可预测性以及船舶布局和结构的差异。

装卸工艺设计的主要内容是装卸系统的设备选型和工艺平面布置。在整个装卸系统中，码头装卸环节的技术发展方向是实现自动化操作和提高装卸效率，这也是码头设备选型的重要考虑因素：堆场装卸设备现已逐步统一到自动化轨道吊方案，技术相对成熟，设计重点是进一步优化堆场布置，提高海、陆侧的作业效率；水平运输环节对整个装卸系统能力的发挥起着关键作用，其设计重点是：如何更好地连接码头、堆场装卸环节，提高整个系统的效率；水平运输区域的布置如何在硬件上保证运输车辆能以最短距离和最少冲突路径行驶。另外，如何在有人的交接面保证作业安全也是工艺设计中需特别注意的问题。

除了硬件设备外，自动化码头关键技术还包括设备调度与控制系统和码头管理系统。

对违规经营投资责任追究实施办法有关问题的思考

文/股份公司 何伟欢

为加强和规范国有企业违规经营投资责任追究工作，进一步加强国有资产监管，国务院国资委先后制定了《关于建立国有企业违规经营投资责任追究制度的意见》《中央企业违规经营投资责任追究实施办法（试行）》等一系列制度。2018年11月，深圳市国资委下发了《深圳市属国有企业违规经营投资责任实施办法（试行）》（以下简称“办法”），《办法》详细规定了市属国有企业违规经营投资责任追究的范围、标准、责任认定、追究处理、职责和工作程序等内容，给企业合规管理、制度建设、风险防控和监督机制等方面提出了新的挑战。本文旨在通过对《办法》的解读，就企业如何更好地落实好文件精神作初步探讨。

终身问责：国企经营投资决策再上“紧箍咒”

国有企业开展资产损失责任追究工作最早开始于2008年，国务院国资委颁布的《中央企业资产损失责任追究暂行办法》第一次提出了“出资人问责”的概念。2013年，十八届三中全会明确提出“强化国有企业经营投资责任追究”，《中共中央国务院关于深化国有企业改革的指导意见》也将“严格责任追究”作为一项重要改革任务。2016年，国务院办公厅印发《关于建立国有企业违规经营投资责任追究制度的意见》，对国有企业责任追究范围、损失认定、责任认定、追究处理、组织实施等做出了框架性规定。第一次对国企投资决策提出了“实行重大决策终身责任追究制度”，意味着国企负责人无论是否离开企业都要对所作的重大投资决策承担责任，给国企经营投资决策戴上“紧箍咒”。2018年，国务院国资委出台了《中央企业违规经营投资责任追究实施办法（试行）》，为贯彻落实党中央、国务院关于以管资本为主加强国有资产监管、有效防止国有资产流失做出了重要的制度安排。深圳市国资委在此基础上，结合市属国企实际情况，制定颁布了《深圳市国有企业违规经营投资责任追究实施办法（试行）》，更加明确提出了 “实行重大决策终身问责”。

“终身追责”的设定有其重要的意义。首先是通过强化国企负责人的投资决策终身职责意识，促使其强化国企投资决策管理。其次是促使国企负责人钻研市场经营及商务管理业务，提高市场经营及商务管理的判断预测、运作操控能力，正确有效实施投资项目决策及业务管理。最后是促使国企负责人强化投资决策全面职责意识，即除自己在投资决策上尽职尽责外，还必须防范所辖范围的投资决策职权滥用，倒逼相关决策的内部程序会更加完善，相关投资决策可能造成的损失也将会大大降低。

纵横延伸：涵盖国有企业经营投资决策“全领域”

在追责的范围方面，深圳市制定的《办法》认定了14个方面92种责任追究情形，比《中央企业违规经营投资责任追究实施办法（试行）》规定的11个方面72种责任追究情形更为全面也更为细致。主要的差别对比如下表所示：

序号	类别	国务院国资委	深圳市
1	在国资国企改革发展方面	无单独篇章	新增内容，共明确5个方面的追责情形。
2	企业管控方面	基本一致	
3	风险管理方面	基本一致	
4	购销管理方面	基本一致	
5	工程承包建设方面	总共有八条条款	条款进行重新界定，并新增1条关于工程变更的追责内容。
6	资金管理方面	基本一致	
7	转让产权、上市公司股权、资产等方面	总共有六条条款	新增1条关于企业资产承包经营中，明显以不合理底价发包的内容。
8	固定资产投资方面	总共有八条条款	条款进行细化，并新增1条关于对实物资产保管不当、维护不善，造成自然毁损、报废或者丢失、被盗的内容。
9	投资并购方面	基本一致	
10	改组改制方面	基本一致	
11	境外经营投资方面	基本一致	
12	资源性资产经营管理方面	无单独篇幅	新增内容，并明确资源性资产未按规定进行公开招租，明显不合理底价出租等7个方面的追责内容。
13	从事股票、期货、外汇、以及金融衍生工具等方面	无单独篇幅	新增内容，并明确6个方面的追责内容。
14	从事担保活动等方面	无单独篇幅	新增内容，并明确了4个方面的追责内容。

表一：深圳市与中央违规经营投资责任追究实施办法的对比表

从对比的情况来看，深圳市制定的办法对违规经营投资的情形描述得更加具体。比如，对于固定资产投资超过预算20%以上，或比原计划滞后两年以上实施，要按照规定重新履行决策程序；对于企业资金存放要纳入“三重一大”决策事项，资金存放银行的选择方式要符合相关规定等。

在资产损失的认定方面，深圳市也依据中央的办法做出了更详细的划分。这一变化主要是根据深圳市属国有企业的资产规模，重新规定的资产损失认定标准。主要区别如下：

序号	类别	国务院国资委的办法	深圳市制定的办法
1	一般资产损失	500万以下	500万以下或在企业及社会造成一定不良影响的
2	较大资产损失	500万以上5000万以下	500万以上1000万以下或在企业及社会造成较大不良影响的
3	重大资产损失	5000万以上	1000万以上2000万以下或在企业及社会造成重大不良影响的
4	特别重大资产损失	无	2000万以上或影响企业持续经营和发展能力，在国际、国内造成特别严重不良影响的

表二：资产损失认定标准的对比表

史上最严：责任追究“全覆盖”、“零容忍”

在责任追究的处理方面，深圳市制定的办法增加了对监管责任人的追责，且处理的标准也比中央的标准更严格，更加具体。具体主要包括组织处理、扣减薪酬、禁入限制、纪律处分、移送监察机关或司法机关等，可以单独使用，也可以合并使用。其内容对比如下：

损失类型	责任人	国务院国资委的办法	深圳市的办法
一般资产损失	直接责任人和主管责任人	给予批评教育、责令书面检查、通报批评、诫勉等处理，可以扣减和追索责任认定年度50%以下的绩效年薪。	给予批评教育、责令书面检查、通报批评、诫勉降职等处理，可以扣减和追索责任认定年度30%-50%的绩效年薪和30%的年金。
	领导责任人	/	给予批评教育、责令书面检查、通报批评、诫勉等处理，可以扣减和追索责任认定年度10%-50%的绩效年薪。
	监管责任人	/	给予批评教育、责令书面检查、通报批评、诫勉等处理，可以扣减和追索责任认定年度5%-10%的绩效年薪。
较大资产损失	直接责任人和主管责任人	给予批评教育、诫勉、停职、调离工作岗位、降职等处理，同时扣减和追索责任认定年度50%-100%的绩效年薪。	给予批评教育、诫勉、停职、调离工作岗位、降职、责令辞职、免职等处理，同时扣减和追索责任认定年度50%-100%的绩效年薪和50%的年金，扣减和追索责任认定年度（含）前三年50%-100%的任期激励收入并延期支付绩效年薪，终止尚未行使的其他中长期激励权益，上缴责任认定年度及前一年度的全部中长期激励收益，五年内不得参加企业新的中长期激励。
	领导责任人	给予批评教育、诫勉、停职、调离工作岗位等处理，同时扣减和追索责任认定年度30%-70%的绩效年薪。	在中央的基础上，同时扣减和追索责任认定年度（含）前三年30%-70%的任期激励收入并延期支付绩效年薪。
	监管责任人	/	给予批评教育、诫勉、停职、调离工作岗位等处理，同时扣减和追索责任认定年度30%-70%的绩效年薪。
重大资产损失	直接责任人和主管责任人	给予降职、改任非领导职务、责令辞职、免职和禁入限制等处理，扣减和追索责任认定年度100%的绩效年薪。	责令辞职、免职等处理，扣减和追索责任认定年度全部绩效年薪和80%的年金，以及前三年（含）80%-100%的任期激励收入并延期支付绩效年薪。
	领导责任人	给予调离工作岗位、降职、改任非领导职务、责令辞职、免职和禁入限制等处理，扣减和追索责任认定年度70%-100%的绩效年薪。	给予通报批评、诫勉、停职、调离工作岗位等处理，扣减和追索责任认定年度50%-70%的绩效年薪和50%的年金，以及前三年（含）50%-70%的任期激励收入并延期支付绩效年薪。
	监管责任人	/	通报批评、诫勉、停职、调离工作岗位，扣减和追索责任认定年度50%-70%的绩效年薪。
特别重大资产损失	直接责任人和主管责任人	/	通报批评、诫勉、停职、调离工作岗位，扣减和追索责任认定年度50%-70%的绩效年薪。
	领导责任人	/	给予降职、责令辞职、免职和禁入限制等处理，扣减和追索责任认定年度70%-100%的绩效年薪，以及前三年70%-100%任期激励收入并延期支付绩效年薪。
	监管责任人	/	调离工作岗位、降职、责令辞职、免职和禁入限制等处理，扣减和追索责任认定年度70%-100%的绩效年薪。

表三：资产损失责任追究处理情况对比表

从资产损失责任追究处理情况的对比表可以看出，深圳市对市属国有企业资产损失责任追究的处理情况是非常严厉的，这给企业合规经营投资提出了新的挑战和新的要求，特别是在建立健全风险管理、民主决策机制、强化内部控制和内部审计方面提出了更高的要求。另一方面，也有人担心，如此严厉的责任追究制度也许能管住拍脑袋决策，却也有可能让人不敢拍板，助长“宁可错过也别犯错”的想法，同时也影响决策的时效性和工作效率。那么企业应该要如何贯彻落实好《办法》呢？笔者认为可以从以下几方面进行。

保护机制：建立企业经营投资的“负面清单”

首先要问题自查。针对《办法》规定的违规经营投资的14个方面92种情形，全面梳理企业内部高风险事项，制定自查清单、明确红线和底线指标，建立风险自查和整改程序。其次要风险体系延伸，要完善企业对“三重一大”事项的决策机制，在重大决策、投资并购、工程建设等过程中嵌入风险分析和评估，将风险内控体系延伸到子公司，确保体系上下贯通，贯彻执行到位。再次要强化国有企业负责人的经营投资决策责任意识，促使其钻研市场经营、业务管理，提高预测判断、运作操控能力，提高科学决策、民主决策、依法决策的能力和水平。要加强企业各业务职能部门对企业战略、重大决策、关键环节等方面的审核把关，从源头上防止国有资产损失。在做经营投资决策时还要仔细识别、评估项目投资可能遇到的各类风险，正确判断企业自身的能力，如是否具有相应的项目运营管理能力、人才储备、技术能力、融资能力、 风险防控能力等，以自身的能力为基础进行科学决策。最后是要强化监督。内部监督是国有企业防范责任追究的最后一道防线，要充分利用好企业纪检监察、监事会、财务总监、内控、风控、审计和法律等监督力量，确保监督和检查中发现的问题按时、按质、按量全面整改，做到不留死角，查查清楚企业内部问题，并持续优化，防患未然。

容错机制：鼓励干事创业的“正面清单”

深圳市国资委制定颁布的违规经营投资责任追究办法中，还有一个与国务院国资委不同的地方就是在责任追究工作遵循的原则中将“坚持‘三个区分开来’”单独作为一个章节进行论述，并规定支持市属国企经营管理人员改革创新，提出符合本企业、本行业的改革思路和举措，营造敢于创新、适于创新的环境氛围。对企业在改革发展中所出现的失误，可依照有关规定予以容错，企业可以建立相应的容错机制，一方面可以激励和保护广大员工勇于担当作为，另一方面也有助于管控改革创新中的风险，可提前设置防火墙，提升风险的预测及管控能力。企业可以从容错机制的适用范围、适用条件、认定主体和认定程序等方面对容错工作进行明确的规定，积极营造开放包容的企业氛围，树立干事创业的鲜明风向标。

视觉.View

▲《金龙港湖》周建强

▲《朝晖航千里》毕立标

▲《红红火火》戚斌

▲《雅湾》阮先斌

▲《野郊地质奇观》陈苏坡

▲《风光秀丽大港湾》梁君才

庆祝新中国成立70周年

摄影展

YANTIAN PORT

▲《护航》徐宁

▼《海阔天是岸》程建功

▲《热火朝天》吴平

▼《莲果仙钓》何芳

▼《日夜争辉》陈耐仲

《海韵》路斌

▲《垂钓》朱雪宾

▲《祁连》戴卫兵

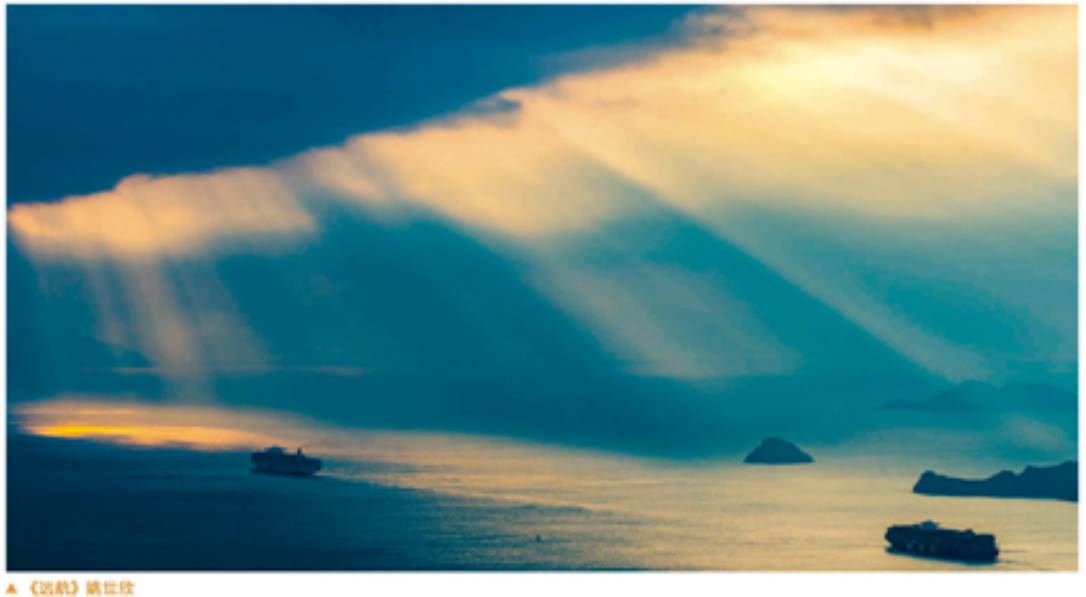
庆祝新中国成立70周年

摄影展

YANTIAN PORT

▲《库尔滨河》徐晓阳

▲《慕》曾洁宇



▲《远航》姚世欣

▲《醺味汉水》张耀华

▲《丹彩入画》彭洪波

万象

奋斗的中国

文/盐田国际 郑招国

岁月如歌，历史的进程把我们带到千年难得一遇的盛世，新中国也迎来她的70岁生日。回顾过去，如果用一个词来形容新中国成立至今的社会画面，我会用“奋斗”。是的，“奋斗”是我们国家和人民共同奏响的基调。

建国之初，国家破烂不堪、千疮百孔，各行各业百废待兴，物质上的匮乏直接导致人们生活上的穷困，温饱都成问题。经历过苦难的民族才懂得安宁富足生活的珍贵，从苦难中走出来的先辈，倍感建设家园的迫切。于是乎，建设国家的热潮在全国上下各行各业奔涌开来。也从那时候起，国家制定国民经济发展的五年计划，并将这个做法沿用至今，成为我们国家的发展蓝图。这段时期，我们学习苏联的经验，在党的领导下艰苦奋斗，取得了显著成绩。大家知道的“东方红”卫星、原子弹、氢弹等大国重器都是在那个时代制造出来的，为中国之后的独立发展奠定了良好的基础，让中国在世界舞台上有了底气。然而，建设虽有所成就，可这个时期我们的发展水平在世界上还很落后，民众的生活水平没有达到实质性的飞跃，物质短缺常有发生，这些际遇，我们的父辈应该深有体会。

俗话说，问题是最好的向导。对于如何建设好国家，中国人民从来没有停止探索。时间到了1978年，党的十一届三中全会决定把党的工作重心转移到经济建设上来，实行改革开放。共产党人在总结过去经验的基础上逐步走出了一条中国特色社会主义的阳光大道，经济上资源配置的方式从计划经济向市场经济过渡，多方面实行了对内改革和对外开放，有了建设国家的顶层设计。加上释放民间活力，又不失时机地加入世贸组织，使得国家可以统筹国内国外两个市场，中国的发展步入快车道，综合国力和人民生活水平显著提高。改革开放40年，中国已经甩开了曾经贫穷落后的帽子，正迈向强国行列。人民的生活基本实现了小康，逐步向更高需求迈进。自此，中华民族从站起来、富起来，迈向强起来。

笔者作为改开之后出生的人，应该说人生是幸运的，没有经历过物质短缺，伴随着蒸蒸日上的祖国一同成长，一路见证着国家发展过程中建设者们辛勤的汗水和创造的奇迹，到处呈现着一幅幅生机盎然、精彩缤纷的画面。不管是社会的“大家”还是自己的“小家”，奋斗和变化是这个时代最鲜明的特点。

谈及改革开放，曾经有这么一句话，“80年代看深圳，90年代看浦东”。其实发展到今天，这句话仍然适用，毕竟这两座城市带给我们的新东西太多了。深圳是一个从小渔村起家的城市。入深圳开荒的第一代人被称为“拓荒牛”。他们曾喊出“时间就是金钱，效率就是生命”的口号，创造出国贸大厦三天盖一层楼的“深圳速度”，刷新了当时建筑史上的纪录，惜时如金、埋头苦干的建设热情空前高涨。正是有这些“拓荒牛”的奋斗，深圳经过近40年的发展后有了翻天覆地的变化。如今城市中高楼林立，人们生活和谐安康，城市发展的关注点已向高科技产业、创新创业聚焦，吸引了一大批世界500强企业进驻，本土也孵化出像华为、中兴、大疆、平安等实力强大的企业。如今，“来了就是深圳人”，成了一句吸引年轻人来深圳打拼的有温度的话语，这座城市正以更大的包容与魄力，向社会主义先行示范区前进。而在上海的浦东，同样是从零开始的一片开发实验区，如今是众多金融企业的聚集地，创造出同样非凡的成绩，并与深圳一样作为改革发展的政策试验田，为国家长远发展作出更多贡献。

城市发展迅速，企业和个人亦然，就拿本人工作的盐田港来说吧，这里曾经是深圳东部的小港湾，拥有得天独厚的环境，这一天然的良水港成为了深圳发展初期建设港口的宝地。港口建设采取了深港合作的模式，东鹏公司（盐田港集团前身）与和记黄埔成立合资公司，实现优势互补，在这里建设港口需要通过开山填海来应对陆域面积不足的问题，以80、90年代的工程技术，辛苦程度之巨大可想而知，那是多少位劳动者日晒雨淋、挥洒汗水开辟出来的陆地啊。建设过程艰难刻苦，后期运营同样不轻松，所幸和记黄埔在码头运营方面经验丰富，少走了不少弯路。由于地理位置优越，盐田港赶上了对外贸易发展的好时机，港口的发展蒸蒸日上，吞吐量节节攀升，2018年全年吞吐量达到1300多万TEU，成为世界上单港吞吐量最大的港口。经过20多年的发展，这个港口已经发展成熟，拥有先进环保的硬件设施及专业高效的运营团队，提供7*24无间断港口服务，在业界乃至世界上都是一颗璀璨的明珠。

说到个人，最能表现我们生活水平提高就是在吃穿住行上的巨大变化了。在吃穿上，人们从当初温饱不保到现在商品供应琳琅满目，从吃不饱穿不暖向追求吃得好、吃得健康和个性穿戴过渡；住房上，居住面积大幅增加，居住环境显著改善；出行上，天上、地上、地下立体交通网络纵横交错、快速便捷，越来越多交通工具采用新能源动力系统，迈向环保出行的新时代。整个社会充满自信、活力四射，人们都在积极地为美好生活奋斗着。说到这里，不得不说，国家全面打响的脱贫攻坚战是一次伟大创举，充分体现了中国在共产党领导下以人民为中心的发展理念，她让伴随中国人民几千年的贫困问题得到根治，创造了世界减贫史上的奇迹。

小时候偶尔会想，世界那么大，我要出去看看。而如今，我慢慢体会到，还是自己的国家风景这边独好。今天，我们生活在一个蓬勃向上的中国，吾辈应不忘往昔艰难岁月，走在前人为我们铺就的阳光大道上，继续奋斗。

永不褪色的勋章

文/盐田国际 黄可臣

今天打开许久没有整理的抽屉，竟然发现一个红色的长方形盒子，一排“共产党员纪念勋章——中共深圳市委颁”的金色字样赫然印在盒子上。打开盒子，一枚银色的勋章静静地嵌在盒子里，正发出耀眼的光芒。勋章以五角星为模，正面由一面迎风飘扬的中国共产党党旗和一头象征着“开拓创新”精神的拓荒牛组成，背面写着一行令人骄傲和鼓舞的字句：“为庆祝中国共产党第十七次全国代表大会胜利召开，特向党龄30年以上、在深圳工作20年以上的党员刘XX同志颁发纪念勋章。——中共深圳市委二00七年十月”。里面提到的刘XX就是我的外公，我们的“老校长”。他离开我们已经有10年了，我至今仍深深挂念着他，仿佛一直以来外公从未离开过。

记得我还是孩子时，总爱“潜入”外公的房间捣乱，因为他的房间总是藏着很多“宝贝”，有看看不完的书籍、挂满墙壁的荣誉和照片，我可以在里面呆上一整天。有一天，我在外公的抽屉里发现了这枚勋章，第一眼就被它深深吸引住了，小心翼翼地把勋章拎起放在手心上。外公对我说：“这是前几天市委给老党员颁发的勋章。”我问道：“什么是老党员？”外公笑眯眯地看着我说：“老党员就像外公一样，年纪这么大了还不忘初心，一直坚守信念的中国共产党员啊。”这是我第一次对“中国共产党员”这简单的五个字产生从未有过的触动，究竟是什么初心，什么信念，可以让外公一直坚守着？正当我想追问外公的时候，外公用手指着墙上说：“这就是我所坚持的动力。”顺着外公指向的方向，我看见了一张泛黄的证明书被整整齐齐地装裱在相框里，上面写着“革命烈士证明书”。外公调整了一下坐姿，突然显得格外严肃，我知道“老校长”肯定又要给我讲革命老故事了，我也马上挺直了腰杆子。

“1927年4月15日，国民党反动派在广州发动了四一五反革命政变。疯狂屠杀共产党人和革命群众。当天晚上，国民党反动派集结了200多人将大沥的铁村紧紧包围，并逮捕了多名共产党人，当中包括谢家3名党员。17日上午，反动派用尽各种残忍的刑具逼迫谢家3人供出南海农军武器所在地。但谢家3人不畏反动派的各种血腥用刑，始终守口如瓶、只字不提。最终敌人的阴谋没有得逞，便将他们押到“飞鼠塘”立即枪决，谢家3人英勇就义。”说到这里，我隐约看到眼泪在外公的眼眶不停滚动。“谢家3人中就是我的爸爸、舅舅和伯父，他们都是革命烈士，这就是它为什么会挂在墙上的原因。”

“老校长”的故事讲完了，我沉默了，房间里也安静了。过了许久，我问：“为什么他们姓谢，而你姓刘啊？”外公从烟纸盒里拿出一张烟纸，小心翼翼地把它摊平，然后用两个手指伸进罐子里撵了一缕烟丝放在烟纸上，慢慢地卷起来，点上火，深深地吸上一口，渐渐地，房间里弥漫着淡淡的烟草味。我知道外公由于前几年得了肺炎，早就把烟给戒了，我已经忘了上一次他抽烟是什么时候了。“当年，因为家里贫困，爸爸突如其来的去世，确认给家里带来了灾难性打击。为了办理爸爸后事，妈妈不得不将我的哥哥卖给了富贵人家当儿子，至今下落不明。为了保存革命的火苗，妈妈带着幼小的我从南海逃离，一路乞讨来到了宝安县，隐姓埋名直到现在……妈妈受到爸爸的影响，一直都十分支持爸爸的革命事业，他们知道家可以散了，但国不能散。”听到这里，这枚勋章在我手上突然有了一份沉甸甸的重量，它并不是一枚普普通通的勋章，而是一种信念的传递。“这枚勋章可以给我吗？”我突然提高嗓音，瞪着圆溜溜的大眼睛盯着外公。外公摸着我的头，说：“这是一种传承，当然可以啊。”

2004年，我光荣地加入了中国共产党，那一年我回到了外公的家。那时的外公已经坐在轮椅上，生活已经无法自理了，听力严重下降，就连假牙也无法放进嘴里了。我们的“老校长”已经老了。我贴在外公的耳边说：“外公，我入党了！”外公似乎听见了，转头看看我，缓缓地举起大拇指对着我，然后指向墙上“革命烈士证明书”的方向，“啊，啊”几句。这次我是真正听懂了“老校长”的故事，因为他的火苗已经传递给我了，深深地种在了我内心深处，不停地燃烧着。

“不忘初心、牢记使命”在老一代党员身上体现得淋漓尽致。他们为了最初的信念，不惧艰辛与死亡，这一切都是“为了中国人民谋幸福，为中华民族谋复兴”。在党的十九大提出新时代中国共产党的历史使命，进一步明确了中国特色社会主义进入新时代中国共产党要承担的历史责任，明确了向着中华民族伟大复兴继续前进的基本战略安排。从小耳目濡染的我，深深体会到这是对每一名党员深切的历史召唤，一份份沉甸甸的责任。生于新时代的我，每当出现迷茫、不知所措的时候，总想起“老校长”给我讲的每一个故事，故事里每一位革命烈士都为我把舵导航，指引方向。如今革命的火种已传递到我们这一代党员的手上，我们必须明确自己的党员身份，牢记当初入党的初心与誓言。今年是中华人民共和国成立70周年，作为盐田港的一名普通的基层党员，也见证了盐田港近十几年的高速发展。如果“老校长”还在，我多么希望能够带他过来看一看大型船舶来往如梭的国际化先进码头。多么希望能够告诉他，革命老一辈的初心与使命我们已经继承下来了，你们的牺牲换来了如今富强的中国。我们将会继续保持这颗永不褪灭的“革命火苗”战斗下去。

新港的「老三件」

文 / 黄石新港 彭亮

"西塞山前白鹭飞，桃花流水鳜鱼肥"，书本里张志和的这首《渔歌子》是人们与大美黄石这座城的初识，电影《黄石的孩子》的精彩演绎让人们对内涵黄石这座城有了更深的认识，黄石这座青铜古城以它独特的矿冶文化记录着中华文明最悠久、也是最鲜活的记忆。

随着近代矿藏资源的逐渐枯竭，这座因矿立市，以冶兴市的矿冶文化名城不再璀璨夺目。然而，智慧、勤劳又奋进的黄石人民始终牢记自己作为一个曾经的工业强市的使命与责任，决心另辟蹊径，力争开启黄石的新发展，再一次创造黄石经济的新纪元。于是，承载着每一位黄石人"以港兴城"希望的黄石新港诞生了。

时光流逝，岁月犹在。从黄石新港成立到如今已走过了五个年头，每一块砖，每一台机器，每一条道都镌刻着新港人这五年来艰苦奋斗的印记。从五个人到现在的一百多人，从最初的活动板房到如今干净明亮的办公大楼，一砖一瓦一草一木都以它独特的存在诉说着新港这五年来的峥嵘岁月。

每每走进办公楼，抚摸着光滑的墙壁，不知不觉就会想走进调度室去看看。因为在那里，眼睛所及的方寸之间，皆有故事。而让人感触最深的莫过于门后挂着的"老三件"——白帽子、雨衣和手电，虽然这三个物件仅仅用了三年，但之于只有五岁的黄石新港已经是元老级别的存在。他的主人，一位从事港口行业30年的老码头人——罗传利，为这平凡的"老三件"注入了不平凡的灵魂，书写着他与新港的动人故事。

"新港要新，也要老"，新港的发展除了要引用国内外先进的港口知识，同样需要有经验的老港口人"去其糟粕，取之精华"的本土知识来武装。"我是一块砖，哪里需要哪里搬"，不计个人得失，没有个人荣辱，这位老港口人毅然决然地放弃工作了几十年的老港，来到万事待兴、一切都需从头开始的黄石新港。

那时的新港还只有几台门机，后方用地尚且还未征收完毕，更不用说人员与流程制度的问题了，大家都是"摸着石头过河"，然而这位书生气息浓厚的罗主任却比任何人还要能吃苦，工人不够，就自己撸起袖子干，长江汛期的时候，他顶着风、冒着雨、摸着黑，装备上他的"老三件"下到走道只有几十厘米宽的负一层查看水位情况，在抗洪第一线，一堆堆帽子中间总会出现这位"白帽子"的身影，或有序指挥，或挖土扛袋，没有一刻停歇，任由泥水浸湿了衣裳帽子也顾不得停下来清理，因为他知道，他退无可退，后面就是新港，他要守护的地方！

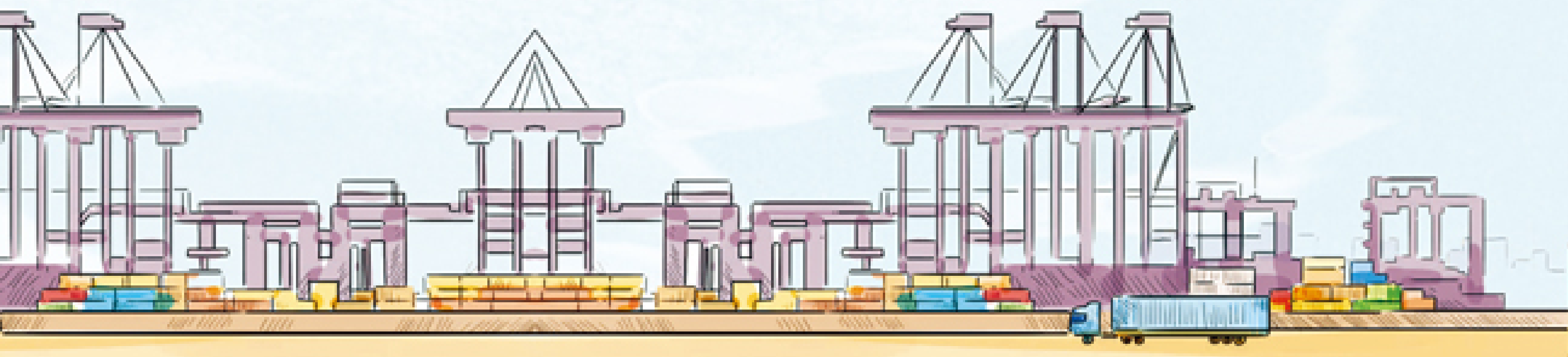
犹记得当时的调度室员工少得可怜，就是这几个人当中，大部分还只是"生手"，进新港之前没有任何调度工作经验，于是他根据自己多年的工作经验亲自编制调度工作手册供他们学习，再有不懂的，就手把手的教，不嫌其烦一遍一遍地演示，三年下来调度工作手册竟已多达数十本！

每天的例行早会，调度室用的时间总是最长，因为他清楚地知道自己肩上的责任，总是千叮万嘱、事无巨细地妥当安排，才能稍稍放心。别以为这就是他工作的全部了，其实这才刚刚开始。

他的勤劳与担当，相信每一位一线员工都有目共睹。每天下午一点半和夜间一点，日夜不倦、风雨无阻，你总会看到一个戴着"白帽子"的身影，或穿着雨衣，或提着手电，从皮带线一路巡查到前沿作业线再到件杂作业线，时间或稍有不准，但从未缺席。

如果做一件事，能坚持一年两年，可以因为新鲜感使然，如果能坚持三十年，那就是一种精神了。正当罗主任带领调度室一步一步砥砺前行，各项制度流程也慢慢趋向完善时，一纸调令又让罗主任去了刚开港的津市港。这位快年近五十的主任又一次远赴他乡，踏上了新征程，还来不及享受他才刚搬进的新房，甚至还来不及等他恢复刚手术完的身体。他也有家，他也有情，他也有想休息的时候，但是他没有停下来，因为这位老港口人、这位老共产党人深知，"革命尚未成功，同志仍需努力"，他就像一颗永不生锈的钉子，只要组织需要，随时可以钉在任何地方。

"春蚕到死丝方尽"，新港正是有了这样的领导干部，才有了坚实的中流砥柱，才有了从220万吨，675万吨到1200万吨质的飞跃。罗主任虽然去了津市，但是"老三件"还在，就犹如他的精神还在。我们相信未来会有更多新港年轻一辈穿戴上这些"老三件"，将他那种把自己沉下去几十年如一日的工匠精神传承下去！他的这些"老三件"也必将为他见证着新港迎来的每一个精彩瞬间，为他见证着"百万标箱，亿吨大港"的"新港梦"一步步走向实现，为他见证着黄石人民"以港兴城"的"黄石梦"一步步走向实现，为他见证着全国人民的"中国梦"一步步走向实现。



想起了盐田港1993的那些事

——谨以此文庆祝新中国成立70周年

文/大铲湾公司 叶卫东

1993，离我们远了，弹指一挥间，已过去26年。

1993，艰苦。“996”、“5+2”、“白+黑”都干过。

1993，报捷。这一年，盐田港的发展取得关键突破，引进了知名的战略投资者和记黄埔，成立合资公司盐田国际，合作经营盐田港区一、二期集装箱业务。用现在最时髦的话来说，1993，可是盐田港湄改元年。从此，盐田港迈上快速发展的高速路，创造出中国港口建设史上的“深圳速度”。

1993，我刚来盐田港工作半年，作为盐田港的“一年级学生”，见证了盐田港的历史性时刻，也度过了自己人生中极不平凡的一段岁月。时隔多年，想起1993那些事，尤在昨天。从某种意义上说，没有1993，就没有盐田港高质量发展的今天。

优先权之争

经过与战略投资者广泛接触，从1993年元月起，盐田港启动了与和记黄埔合资谈判。双方在晶都酒店进驻了谈判小组。我当时在集团办公室秘书科工作，因为要配合谈判小组传送文件、资料的缘故，也曾跑了几趟晶都酒店，从我们科长那里听到了一些谈判中的花絮。我们科长说，经过几个回合的谈判，双方就投资金额、合作年限、股份占比等主要条款已逐步达成共识，谈判进展顺利。但对手很聪明，就在这时候，突然抛出了优先权条款，一下子让双方的谈判陷入僵局，接连几个月都无法取得共识。为什么对方在投资金额、股比上可以让步，但对优先权却寸步不让。从后面盐田港的发展来看，可以清晰看到谈判对手高瞻远瞩的战略眼光。所谓优先权，就是指在公司依法设立之后，对于盐田港集团计划发展的盐田港区及后方腹地的开发、建设及经营项目，除非法律、法规或已有的其他法律文件另有规定，公司具有第一优先选择权。合资发展弃实了盐田港区建设和经营的高起点、高速度和高效益，优先权条款也为初入市场经济的盐田港人上了一堂生动的战略管理课。优先权，保证了合作方长期的利益诉求。

工地“灯火通明”

伴随着1993年10月5日在北京钓鱼台国宾馆与和记黄埔签约，在奠定盐田港区建设和经营高起点的同时，也把沉甸甸的责任压给盐田港人。一份合资合同把盐田港人的退路全部砍断。作为当年度最大的外资引进项目，假若合同上规定的十二大项工程完不成，就会产生很恶劣的影响。毕竟当时签约的规格是很高的，在此之后的7个月，盐田港上至高管，下至我们这些普通员工，都投入到玩命的建设之中。盐田港码头及后方陆域工地，每个夜晚都是“灯火通明”，这成为了当时的新常态。这段奋斗史书写了愚公移山、精卫填海的现代故事。建港指挥部领导经常在夜深人静之时巡检建设现场，每有感悟就提笔写信，通过亲笔信方式代替印发文件鼓舞士气。我当时在秘书科，也经常跟随领导到工地开现场协调会，每次会议结束时基本上都是晚上八、九点。一次现场会上，主持人拿出了指挥部领导关于工地建设感受的亲笔信进行传达。我记得信是这样写的：凌晨两点，我们盐田港的工地上灯火通明，挖掘机“长臂”挥舞，运土车辆来来往往，一派热火朝天的场景……我在回宿舍路上，途经罗沙公路工地，同样见到灯火通明。一个普通工地为抢工期、赶进度都能够做到灯火通明，作为国家级重点工程，更要拿出通宵奋战的决心。通过一封亲笔信的一个侧面，我们不难理解到，盐田港之所以能够迅速从一片荒凉的滩涂迅速发展为国际中转大港，离不开精神的力量，一种敢于奋斗的精神。事业是奋斗出来的，有了大港崛起的梦想、担当和拼搏，才能实现不断的跨越。

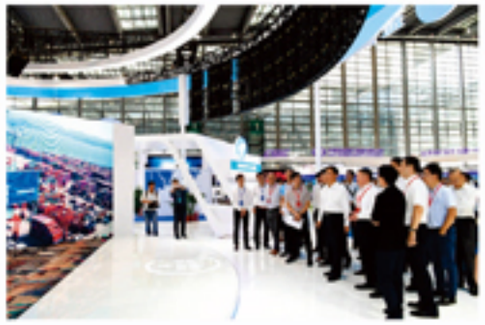
部室干部下沉建设一线

签约之后，盐田港就掀起了“撸起袖子加油干”的热潮。从1993年11月开始，盐田港总部各部室都要派干部支援建设一线。我作为办公室的代表，也加入到一线建设的行列。我一方面跟随副指挥长处理会务工作，撰写会议纪要、准备开会材料、撰写发言稿，与此同时，还分配到一期工程3.5万吨、5万吨级泊位堆场工作组负责督导工作。一期工程各有2个3.5万吨、5万吨级泊位，其堆场面积24万平方米。1993年的冬季，天佑盐田港人，雨天很少。但24万平方米堆场的施工量很大。要依次进行碎石垫层、垫层和混凝土面层施工，作业面很大，对工程质量要求很高。规划部的一位高级工程师每天早上带着我到工地巡查，询问项目质检员和监理施工情况，收集昨天完成的施工量数据，整理后及时报给指挥长。这3个月的督导工作，最苦的事情是怎么防风。当地有句民谚，“盐田风，梅沙浪”，就是说盐田的海风很厉害，寒风如刀片，一般人受不了。每天迎着这样的风走工地，对意志力是很大的考验。一期堆场工程于1993年年底顺利竣工，获得了优良工程奖。3个月的一线经历，让我亲身体验了盐田港崛起中的不易。

盐田港从偏僻小渔村发展为世界级的集装箱码头，2018年盐田港区集装箱吞吐量达1315.97万标箱，为深圳港连续4年保持全球集装箱港口第三位作出重要贡献。盐田港集团从80万元起家，发展为以港口建设、投资与经营、综合物流和港口综合配套服务的大型港口产业集团。从港口这个侧面展示了新中国成立70周年的辉煌成就。

要闻

盐田港集团参展2019海博会取得圆满成功



10月17日，为期四天的“中国海洋第一展”——2019中国海洋经济博览会在深圳会展中心圆满收官。作为深圳核心蓝色力量之一，盐田港集团向全球展示了深厚的历史底蕴，辉煌的产业成就以及“向海图强、逐梦深蓝”的使命担当，吸引了千余人次到展厅参观和交流。17日中午，深圳市委常委、市政府党组成员杨洪一行参观海博会，并走入盐田港集团展厅，与集团董事长孙波、副总裁乔宏伟进行深入交谈。盐田港集团的展厅设计、展示方式和展示内容，充分体现了集团积极担当深圳建设全球海洋中心城市的主力军、生力军的能力和决心，彰显了为深圳建设中国特色社会主义先行示范区贡献力量的魄力和担当。

（文/图 编辑部）

盐田港集团成功承办蓝色经济企业家国际论坛

10月14日，在中华人民共和国自然资源部的指导下，由中国海洋发展基金会主办、盐田港集团具体承办的蓝色经济企业家国际论坛在深圳五洲宾馆成功举办。自然资源部党组成员、国家海洋局局长王宏，广东省副省长许瑞生，来自葡萄牙、柬埔寨、斯里兰卡、泰国和太平洋岛国发展论坛的部长级官员参加了会议，100余家海洋油气、海洋新兴产业、港口运输、工程装备等领域的企业代表和专家学者共380余名嘉宾齐聚一堂，共商蓝色经济发展大计。论坛上，集团董事长孙波作了以“打造海洋产业发展赋能平台，推动深圳全球海洋中心城市建设”为题的主题发言，总裁刘南安主持“绿色港口与航运”专题讨论。

（文/图 编辑部）

截至2019年10月集团系统箱量完成情况

单位:万标箱

	本月数			累计数		
	2019年	2018年	同比增长	2019年	2018年	同比增长
盐田港区	105.69	115.86	-8.79%	1084.09	1074.78	0.87%
盐田国际(一、二期)	23.83	27.59	-13.63%	244.46	245.59	-0.46%
盐田国际三期及扩建	63.66	76.00	-16.24%	652.95	655.83	-0.44%
西港区	18.20	12.29	48.09%	186.68	173.36	7.68%
大铲湾港区	8.83	11.62	-24.01%	104.38	102.86	1.48%
合 计	114.52	127.50	-10.18%	1188.47	1177.64	0.92%

本月我司系统集装箱吞吐量114.52万标箱，同比减少10.18%，本年累计1188.47万标箱，同比增长0.92%。盐田港区本月集装箱吞吐量为105.69万标箱，比上年同期减少8.79%，其中，一、二期23.83万标箱，比上年同期减少13.63%；三期及扩建63.66万标箱，同比减少16.24%；西港区18.2万标箱，同比增长48.09%。大铲湾港区本月集装箱吞吐量为8.83万标箱，同比减少24.01%。深圳港本年累计集装箱吞吐量2143.84万标箱，同比增长0.54%。深圳其他港区具体情况如下：

单位:万标箱

	本月数		累计数	
	10月	同比增长	1-6月	同比增长
深圳港	211.7	-4.06%	2143.84	0.54%
集团系统	114.52	-10.18%	1188.47	0.92%
其中:盐田港区	105.69	-8.79%	1084.09	0.87%
大铲湾区	8.83	-24.01%	104.38	1.48%
赤湾港区	97.17	7.89%	955.37	0.08%

今年10月集团系统集装箱吞吐量在深圳的市场份额为54.09%。

中国海洋大学深圳研究院落户大铲湾港区

10月14日，合作共建中国海洋大学深圳研究院框架协议签约仪式在五洲宾馆举行，盐田港集团总裁刘南安代表集团与中国海洋大学、深圳市宝安区人民政府签订了协议。自然资源部党组成员、国家海洋局局长王宏，自然资源部总工程师张占海，广东省自然资源厅厅长、省海洋局局长厉彦树，深圳市委常委、市政府党组成员杨洪，副市长王立新，市政府副秘书长徐松明，中国工程院院士麦康森，中国海洋大学校长于志刚，宝安区区长郭子平，盐田港集团董事长孙波见证了签约。仪式由深圳市科技创新委员会副主任黄璜主持。

（文/张昕琪、蒋阳、赵顺）

市国资委主任余钢调研斯洛文尼亚国家馆

10月24日，市国资委党委书记、主任余钢一行到福田保税区斯洛文尼亚国家馆参观调研，盐田港集团副总裁王彦、物流公司相关负责人陪同调研。

（文/丘晓雯）

盐田港与Milkway、勤智资本签订三方战略合作意向书

9月9日，盐田港集团与荷兰Milkway公司、深圳前海勤智国际资本管理有限公司在海港大厦签订了战略合作意向书。荷兰Milkway创始人Diederik Brasser、勤智资本董事长汤大杰、盐田港集团董事长孙波、副总裁乔宏伟、董事会秘书陈彪，集团董事会秘书处、投资发展部、深汕港口公司相关人员参加了仪式。

（文/张昕琪）

凝聚合力推进全球海洋中心城市建设——市政协副主席陈倩雯一行调研盐田港集团

9月12日，市政协副主席陈倩雯率队来到盐田港集团，对加快建设全球海洋中心城市工作开展专题调研，会议由集团董事长孙波主持。

（文/张昕琪）

深圳市航运集团总裁屈晨一行来访盐田港

9月26日，深圳市航运集团有限公司总裁屈晨一行来访盐田港集团，与盐田港集团董事长孙波进行了会谈。集团董事会秘书陈彪、深汕公司总经理王夏冰，投资发展部、深汕公司相关人员参加了座谈会。

（文/张昕琪）

孙波董事长出席青岛“海洋·发展”大会

10月25日，应中国海洋大学邀请，盐田港集团董事长孙波率大铲湾公司相关人员出席了由青岛市人民政府和中国海洋大学联合主办的青岛“海洋·发展”大会。

（文/大铲湾公司）

盐田区区长杨军一行调研盐田港东作业区

10月29日，盐田区区长杨军，副区长叶卫平、周敏赴盐田港东作业区现场调研，听取了项目建设情况汇报，并召开现场会议沟通工作推进事宜。盐田港集团董事长孙波、副总裁乔宏伟、总工程师肖明俊出席会议。

（文/张昕琪）

盐田港集团与振业集团签订战略合作协议

10月29日，盐田港集团与深圳市振业（集团）股份有限公司在深圳湾科技生态园举行战略合作协议签约仪式，盐田港集团总裁刘南安和振业集团总裁朱新宏代表双方签署了协议，集团董事长孙波见证了签约。

（文/张昕琪）

深圳市委外办领导一行调研盐田港

10月10日，深圳市委外事办公室主任蔡颖、副主任孙怀忠、钟嘉俊一行调研盐田港集团，实地参观盐田港区及“16+1”中东欧国家馆。集团总裁刘南安及办公室、人力资源部相关负责人参加了调研。

（文/张昕琪）

盐田区区长杨军一行调研盐田港冷链服务仓项目

10月11日，盐田区区长杨军、副区长周敏到盐田港冷链服务仓项目施工现场调研项目建设情况。盐田港集团总裁刘南安、总工程师肖明俊，集团规划建设部、冷链服务仓项目部相关负责人陪同调研。

（文/张昕琪）

刘南安总裁拜会常德市委书记周德睿

10月21日，盐田港集团总裁刘南安一行赴常德考察，拜会了常德市委书记、市人大常委会主任周德睿，双方就港口合作事宜进行洽谈。

（文/集团办公室、股份公司）

刘南安总裁率队调研津市港口建设

10月22日，盐田港集团总裁刘南安、副总裁乔宏伟来到津市港区现场调研，听取了津市港口发展现状、港口规划、货源腹地等情况汇报。随后拜会了津市市委书记傅勇，就津市港二期工程及合作事项进行了交流。

（文/集团办公室）

半山悦海花园入伙啦！

10月26日上午，半山悦海花园揭幕暨入伙仪式在项目营销中心隆重举行。盐田港集团总裁刘南安、副总裁乔宏伟为仪式剪彩。

（文/置业公司）

盐田区副区长周敏调研盐田港临港物流发展情况

10月18日，盐田区副区长周敏调研盐田港“16+1”中东欧国家馆，并主持召开盐田河临港产业带发展问题研究调研会。盐田港集团副总裁王彦，盐田区工信局、区前期办和盐田综保区经济发展服务中心等相关负责人，以及盐田港物流公司相关负责人参加了调研。

（文/叶秋裕）

重庆港务物流集团一行来访盐田港

10月31日，盐田港集团纪委书记兼监事会主席徐宁在海港大厦会见了重庆港务物流集团有限公司纪委书记阳勇一行，双方就国企纪检监察工作的开展情况进行了交流。

（文/张昕琪）

喜讯！盐田港集团生态文明建设考核工作获市委、市政府进步单位奖

9月3日，根据《中共深圳市委 深圳市人民政府关于2018年度全市生态文明建设考核情况的通报》内容，盐田港集团荣获“2018年度进步单位”奖，这是继2014、2016年后第三次获此殊荣。

（文/张培佳）

集团党委召开“不忘初心、牢记使命”主题教育总结会

9月11日，盐田港集团党委“不忘初心、牢记使命”主题教育总结会在海港大厦三楼召开。会议认真贯彻落实党中央、广东省、深圳市“不忘初心、牢记使命”主题教育第一批总结暨第二批部署会议精神，系统回顾了主题教育开展情况，深入总结取得的成效和经验，巩固和深化主题教育工作成果，并对下一步工作提出要求。

（文/张昕琪）

集团工会联合会开展送清凉活动

9月11日上午，受盐田港集团党委委托，集团工会联合会对18家基层工会一线员工开展送清凉活动，现场发放防暑降温慰问品750份（其中深圳市总工会赞助150份）。

（文/邵阳）

无上荣光！王旷同志荣获“庆祝中华人民共和国成立70周年”纪念章

盐田港集团离休干部、老党员王旷同志荣获中共中央、国务院、中央军委颁发的“庆祝中华人民共和国成立70周年”纪念章。9月27日，集团党委组织召开了总部离退休人员座谈会，集团党委副书记、工会联合会主席王沛航代表集团党委给离退休员工们送上了深切的关怀，并将纪念章送到了王旷同志手上。

（文/张昕琪）

盐田港集团参展2019年第十四届中国（深圳）物博会

10月10日，2019年第十四届中国（深圳）国际物流与供应链博览会在深圳会展中心开幕，盐田港集团作为物流与供应链领域的代表性企业参展。集团副总裁叶忠孝、王彦，集团经营管理部及股份公司、大铲湾公司、物流公司、资讯公司等相关负责人到现场巡馆。

（文/邵阳）

集团在第十届“鲲鹏杯”乒乓球赛中取得佳绩

10月19日-20日，2019年第十届深圳市国资委党委系统“鲲鹏杯”乒乓球赛于在罗湖体育馆举行，集团系统共10名运动员参加了乒乓球男、女单打和混合团体三个项目比赛，黄石新港华喆勇夺男子单打比赛第三名。

（文/邵阳）

集团篮球队勇夺“盐田杯”篮球赛亚军

10月26日，由盐田区直机关工委、区文化广电旅游体育局主办的2019年“盐田杯”机关企事单位篮球赛在盐田体育中心完美收官，盐田港集团篮球队收获亚军奖杯。

（文/邵阳）

盐田港股份荣获“2019年度深圳上市公司绿色治理十佳”

9月7日，在深圳举行的第三届中国（深圳）公司治理高峰论坛暨 2019 深圳上市公司治理评价报告发布会上，盐田港股份公司被授予“2019年度深圳上市公司绿色治理十佳”称号。

（文/李晨）

盐田港现代物流中心建成首个恒温恒湿仓

9月17日，由物流公司负责改造运营的盐田港现代物流中心一期恒温恒湿仓改造工程完成竣工验收，标志着首个恒温恒湿仓顺利建成，物流公司在现代物流中心综合楼9楼会议室举行了工程竣工验收会。

（文/叶秋裕）

惠盐高速扩建工程2019年旱季施工劳动竞赛动员大会顺利召开

9月24日，惠盐高速扩建管理处在土建工程（第一合同段）预制梁场召开惠盐高速深圳段改扩建项目工程2019年旱季施工劳动竞赛动员大会。

（文/惠盐高速扩建管理处）

盐田海事局李国栋一行调研拖轮公司

9月25日上午，盐田海事局副局长李国栋率队调研拖轮公司，检查指导拖轮公司的安全生产工作。拖轮公司副总经理蒋磊，集团安全管理部、拖轮公司船务部相关人员参加了会议。

（文/周伟光）

骨髓捐献者物流公司员工何燊宇成为深圳站第302位捐献者

9月26日，物流公司下属企业通陡利公司员工何燊宇通过中华骨髓库深圳市血液中心，向一位白血病患者捐献了造血干细胞（骨髓）250毫升，成为了“中国造血干细胞捐献者资料库”深圳站的第302位非亲缘关系捐献者。

（文/邵阳）

股份公司开展2019年度惠盐高速公路交通安全事故应急救援演练

9月27日，股份公司与市交警局东部高速公路大队联合举办了2019年度惠盐高速公路高边坡塌方引发道路交通安全事故的应急救援演练活动。

（文/曾志恩）

盐田港出口集装箱通关缩至平均2.2小时

10月13日，由货讯公司优化调整的盐田国际码头发送运抵报告功能系统正式投入使用。新系统可实现盐田港区出口集装箱提前申报进场后即刻放行。运行以来，深圳东部港区盐田港出口集装箱通关平均时长由原来的约13个小时缩短至2.2小时。

（文/傅骁）

大鹏伟捷荣获大鹏LNG优秀安全管理奖

10月25日，广东大鹏液化天然气有限公司（简称大鹏LNG）2019承包商会议顺利召开，拖轮公司下属的深圳大鹏伟捷拖轮有限公司荣获优秀安全管理奖。

（文/孙春玉）

物流公司顺利完成深圳口岸首单二手车批量出口

10月22日，盐田港物流公司下属企业能源物流公司完成了四台二手车出口至柬埔寨的业务操作，成为广东省二手车出口业务试点工作开展以来，深圳口岸首单多台二手车一次性出口业务。

（文/叶秋裕）

“奔跑追梦·阅读吧”

读书月 活动之星级好书推荐

五星书籍 ★★★★★

《真实的幸福》

推荐部门：

财务管理部

推荐理由：

马丁·塞利格曼，美国著名心理学家，积极心理学的创始人，当代认知心理治疗的创始人之一。从“抑郁专家”到“积极心理学之父”，塞利格曼博士从“习得性无助”中走来，不再只关注人性黑暗、脆弱与痛苦的一面。“塞利格曼的幸福课”是新世纪人类行为的指南。看过这本书的人，不管是门外汉还是专业人士都会受惠。这本书不仅包含了具体的自我评估工具，而且语言生动风趣，道出了活出真我的真正涵义。

四星书籍 ★★★★

《趁年轻，折腾吧》

推荐部门：

经营管理部

推荐理由：

一个人的人生效率怎么样才能是最高的，同时对人生的满意度也是最高的呢？那就是你今天喜欢的东西正好就是你的职业，而这个职业就是你学的那个专业；你爱的人正好就是你嫁的人，你嫁了很多年之后发现你嫁得还真的很对——这就是理想的人生。

四星书籍 ★★★★

《平易近人 习近平的语言力量》

推荐部门：

人力资源部

推荐理由：

本书从习近平总书记系列重要讲话的语言风格入手，辑录了中共十八大以来至2014年5月，习近平总书记在各种场合发表的重要讲话中富有特色的引文引言，共70个词条，对其语源、语义、理论价值以及社会反响等进行简明扼要的阐释，以期为广大干部群众学习习近平总书记系列重要讲话精神提供一个新颖的、可读性强的、“接地气”的读本。

三星书籍 ★★★

《你心柔软却有力量》

推荐部门：

经营管理部

推荐理由：

有一种力量，似清风，徐徐而来，拂面而过，抚平的是内心的焦躁与不安，但同时却也能风化岩石山川，改变大地万物的形貌。读《你心柔软，却有力量》，感受到的是由内而外喷发的力量，这种力量不来自于声嘶力竭的呐喊，也不来自于落气回肠的经历，而是一种内心饱满后的强大精神支撑。于是，心愈之柔软，人愈之善良，能包容他人，心愈之柔软，遇到困难，能接纳自己。

三星书籍 ★★★

《看见》

推荐部门：

纪检监察室

推荐理由：

有些事情肉眼是无法看到的，而要通过内心才能看得见。那些真正触碰过心灵深处的人与事，是非对错，事件真假，都是对自己的一种思考和历练。

三星书籍 ★★★

《巴黎圣母院》

推荐部门：

产权法律部

推荐理由：

卡西莫多在法语的意思是不完美的意思，这个可怜的敲钟人却比高大英俊的菲比斯队长要高尚得多。当重读经典，或许你会对若扎副主教克洛德有不同的看法，艾丝美拉达和克洛德或许都是中世纪背景的牺牲品。最后请相信，这世界有人多恨你，就有人多爱你。