全球供应链：平衡安全与效率

赢创工业集团

执行概要

自 2020 年初以来，新冠病毒对我们的公共和私人生活造成了极大影响，世界各国纷纷出台相关应对措施。新冠病毒已经对全球经济产生了巨大影响，并导致世界贸易总额大幅下滑。与此同时，人们也愈发关注社会、经济和环境之间的紧密联系。过去 40 年以来，全球生产的最大份额是通过全球价值链组织起来的，而全球价值链占全球贸易的三分之二。新冠肺炎大流行的突然爆发对这种国际分工产生了重大影响。此后，生产链和供应链无法持续，被迫中断。然而，有一点非常清楚：我们高度依赖全球供应链的正常运转；当供应链中断时，生产设施便会陷入停滞。

在新冠肺炎疫情爆发之前，国际供应链便已陷入衰退或停滞。自 2018 年以来，随着中美贸易争端爆发，贸易保护主义壁垒急剧增加。受新冠肺炎

疫情影响，全球投资、消费、产业链、供应链和价值链均遭受了严重冲击。在此背景下，全球供应链安全问题被提上了议事日程。据分析人士预测，为了应对新冠肺炎疫情，企业将增加靠近终端市场的制造基地，而不是依赖庞大的生产链。特别值得一提的是，新冠肺炎疫情加速了企业采用数字化工具以提高制造效率的进程。如果没有庞大的市场压力，这一趋势可能不会这么快发生。

新冠肺炎疫情爆发以来，许多国家采取了更多的保护主义措施，这对全球自由贸易产生了重大影响。为了保护所有行业部门及其本国人民利益，各国政府越来越多地采取保护主义措施。世界各地的制造商将面临更大的政治和竞争压力，以提高国内产量，增加本国就业，减少甚至消除对“风险”来源的依赖程度，并重新考虑精益生产战略，其中包括尽量减少全球供应链库存。

新的区域贸易协定将有助于中国保持其在全球供应链中的优势。2020 年 11 月，中国和其他 14 个国家签署了全球最大的贸易协定——《区域全面经济伙伴关系协定》（RCEP）。分析人士预测，该贸易协定将扩大亚太地区的市场规模，为企业在亚太地区生产和销售创造更多机会。此外，中国

和欧盟已于2020年底完成了《中欧全面投资协议》（CAI）的谈判，赋予了双方企业更广泛领域中的投资准入。这是中国在降低贸易风险、保持全球供应链优势方面的又一重大举措。

中美贸易摩擦已经对全球经济造成了严重影响。这场冲突还波及到了德国等依赖国际合作与稳定的出口国。德国经济的很大一部分是出口导向型。新冠肺炎疫情严重影响了德国的出口表现。此次出口下滑可以追溯到新冠疫情在德国的开始阶段：2020年3月，边境关闭、物流受阻和供应链中断显著减缓了出口贸易。对于德国来说，进口贸易与出口贸易同样至关重要。

后疫情时代的全球经济走势：世界各国都显著提高了对产业链、供应链和价值链安全的重视程度。增强弹性是稳定供应链和产业链的关键。各国政府对供应链的干预力度将显著提升，全球“大三角型”产业分工格局也将发生重大变化。产业链和供应链可能更加本地化和区域化。虽然产业链、价值链和供应链越来越短、分散和本地化，但却越来越智能化、自动化和数字化。企业面临的挑战将是，在不削弱自身竞争力的前提下，提高供应链的弹性。

在未来，我们需要良好的应变和稳定能力，以便顺利度过各种危机。这不是缩短供应链的问题，而是让供应链更加稳定的问题。这意味着，关键产品必须有多个供应商。在过去，许多企业降低了供应商数量，从而造成了对某些供应商的依赖。我们必须在不牺牲全球化经济优势的情况下降低对原材料的依赖程度。企业必须从多个来源获取原材料供应，以防止供应短缺甚至供应中断，并顺利度过长期危机。

许多人预测，此次新冠危机将导致全球化终结。但是，我并不赞同。与之相反，我相信许多企业将采取更加国际化的思维模式，并将相应地做出调整，以便在危机时期也能继续为客户服务。德国化工行业就是如此。这些企业在北美和亚洲基地生产大量商品。他们应该这样做。如果企业能够直接在销售市场完成生产，那么便会减少供应链和保护主义方面的问题。

可持续性的问题是另一个主题。我们不仅需要稳定的供应链，而且需要可持续的供应链。这意味着：我们必须维护员工权利，遵守环境标准。企业必须对产品的生产条件负责。通过履行责任关怀义务，企业将从更加稳定的供应链中获益，同时也将承担相应的责任。政策制定者不应为企业做出商业决策，否则就意味着市场经济的终结。然而，作为一家负责任的

企业，我们必须遵守所在业务领域的人权保护标准。

当前，全球经济与开放市场紧密联系，为世界各国的繁荣发展作出了重大贡献。我们不需要保护主义，而是必须致力于打造开放市场。我个人坚信，以国际公平竞争为原则的全球自由贸易仍是最具吸引力的经济模式。这种模式可以促进经济增长并创造更多就业机会。长期以来，我们的经济早已在全球范围内相互关联。在所有价值链体系中，我们已经建立了一种有效的国际分工模式，让全球数百万人甚至数十亿人摆脱了赤贫。全球化是一个十分成功的发展模式。我们绝对不能逆向而行。

我认为，在过去一年里，如果我们学到一件事，那就是危机不分国界。单一国家无法应对疫情等全球挑战，也无法应对气候变化、移民或维和等难题。在这个紧密联系的世界里，我们不能将自己孤立于我们的邻居之外。只有在多边体制框架内，我们才能保持经济繁荣、社会发展和政治稳定。无论我们身处何地，新的贸易壁垒和边境围墙势必将阻碍我们的共同发展。我们依赖自由贸易。应对全球挑战的正确答案并不是孤立主义和国家私利，而是国际合作。我们需要建立开放、互信的合作伙伴关系。为了我们自己的利益，也为了我们共同的未来。

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赢创工业集团背景报告

赢创工业集团董事长 库乐满

概述

随着新冠肺炎疫情席卷全球，整个世界突然陷入了停顿。与之相关的还有全球贸易和经济。尽管疫情对世界各国产生的直接影响不尽相同，但各大洲都受其影响。自 2020 年初以来，新冠病毒对我们的公共和私人生活造成了极大影响，世界各国纷纷出台相关应对措施。即使在一年之后的今天，也无人能够断言疫情还将持续多长时间。疫情爆发不久之后，人们便意识到，新冠病毒将会为世界各国造成重大经济损失。时至今日，新冠病毒已经对全球经济产生了巨大影响，并导致世界贸易总额大幅下滑。与此同时，人们也愈发关注社会、经济和环境之间的紧密联系。过去 40 年以

来，全球生产的最大份额是通过全球价值链组织起来的，而全球价值链占全球贸易的三分之二。来自各国的原材料和中间产品运往世界各地，并在其他国家加工。此后，成品再出口到终端消费者。新冠肺炎大流行的突然爆发对这种国际分工产生了重大影响。

这一流行病表明，全球化经济循环实际上是多么脆弱。病毒最早发现在中国，并相继在欧洲、北美、南美和非洲发现。几乎所有受影响的国家都采取了限制措施，以遏制病毒的传播。其中，一些措施导致了众多经济领域的停产。此后，生产链和供应链无法持续，被迫中断。毫无疑问，世界范围内的防疫“封锁”措施让我们重新认识了全球化所带来的负面影响。各国政府切断了本国经济与外界的联系，并越来越依赖贸易保护主义措施。在世界各地，关税和其他贸易壁垒阻碍了国际货物的正常交换秩序。然而，有一点非常清楚：我们高度依赖全球供应链的正常运转；当供应链中断时，生产设施便会陷入停滞。这就引出了一个问题：我们的全球生产结构到底有多稳定？企业是否需要重新思考现有商业模式？新冠肺炎大流行结束之后，我们的供应链会有所变化吗？

麦肯锡全球研究院（MGI）表示：“基于对全球行业经济状况以及不同

国家政策重心的长期观察，我们预计在未来五年之内，如果企业努力重组其供应商网络，全球出口总额的 16%至 26%（价值 29 亿至 46 亿欧元）可能转移到新的目的地国家。”自本世纪初以来，出于诸如利用优惠政策等考虑因素，许多企业越来越多地将生产外包给亚洲各国。然而，在未来，随着安全性、规划确定性和弹性变得愈发重要，纯生产成本可能并非是首要考虑因素。这可能会导致外包生产重返原来的国家，或者转移到地理位置更为接近的制造国。对于德国企业来说，这可能意味着将外包生产从中国转移到其他欧洲国家。麦肯锡全球研究院（MGI）表示：“新冠肺炎疫情似乎正在加速某些已经影响全球供应链发展的趋势，包括贸易和制造网络的区域化。随着制造业自动化水平的不断提高，廉价劳动力成本的重要性正在不断削弱。”研究人员指出，在未来十年内，如果供应链发生中断，各国企业将损失至少 42%的税前净利润。

在新冠肺炎疫情爆发之前，国际供应链便已陷入衰退或停滞

这一趋势在德国化工行业尤为明显。2011 年至 2014 年间，该行业的全球供应链萎缩了约 2.5%。这种情况主要影响了运往欧洲或美国的上游产品。2008 年金融危机爆发之后，许多企业对其全球供应链开展了重新评估。

世贸组织相关数据表明，2014 年至 2017 年期间，上游仅跨越一个国际边境的短价值链贸易额大幅下滑。一个可能的原因是，与已经完成工业化的国家相比，新兴工业化国家的员工薪资逐年提高，劳动力成本差异不断下降。在 2017 年之前，上游产品跨越多个国际边境并涉及多道加工程序的复杂价值链贸易一直相对稳定。但自 2018 年以来，随着中美贸易争端爆发，贸易保护主义壁垒急剧增加。这些贸易壁垒对全球价值链造成了重大影响。

中美贸易战和保护主义措施是对全球供应链弹性的重大考验

在新冠肺炎疫情爆发之前，全球贸易便已经显现了诸多变化迹象。在美国，"美国优先"战略转向贸易保护主义思维。特朗普政府的对外贸易政策有着强烈的民族主义色彩，更加趋向互惠贸易，而非自由贸易。这不仅是一个增加国内附加值和创造就业机会的问题，还是一个国家安全问题。对于美国而言，维护国家安全意味着美国的关键产业应该拥有独立于中国的供应链。美国在经济上脱离了中国，取代了以往的参与和融合政策。这种"脱钩"战略所使用的贸易政策工具包括关税、投资管制和供应抵制。

作为新任美国总统，乔•拜登势必将缓和某些贸易争端，但保护主义

仍将继续存在。两国的贸易氛围和互动方式将有所改变。这将促使各国在未来有更大的可能就贸易问题达成协商一致的解决方案。这有利于创造一种可预测的氛围，并确保了更大的规划确定性。德国企业也将从中获益。拜登可能会更加关注国际合作。这将是多边贸易关系的积极信号。但是，我们必须认清现实：拜登新政府不可能突然扭转过去四年的贸易政策。在生产和就业方面，拜登同样奉行“美国优先”政策，因此各种贸易摩擦势必将继续存在。我们不要忘记，拜登政府最初对拟定的全新贸易协议采取了拒绝态度。

在欧洲，多项自由贸易协定同样遭遇了滑铁卢。最近的是《跨大西洋贸易与投资伙伴关系协定》，更早的是《多边投资协定》（MAI）。后者在 1998 年由于法国总统雅克·希拉克的抵制而宣告失败。截至目前，欧盟还未能将自由贸易愿景变为现实，转而主要着眼于短期战略。欧盟十分关注欧洲的生态环境，但完全缺乏地缘政治野心。如果我们继续沿着这条不一致的道路走下去，势必将为此付出沉重代价。我们欧洲人已经习惯于某种程度的多边主义，但我们需要适应已经发生的重大变化。

欧洲各国将不得不针对中美事态发展作出反应。我们必须以利益导向

战略取代道德导向战略，才能为今后发展铺平道路。归根结底，国家之间没有永恒的朋友，只有永恒的利益。

中国

新冠肺炎疫情对供应链造成冲击并加快数字化进程

新冠肺炎疫情爆发以来，全球投资、消费、产业链、供应链和价值链均遭受了严重冲击。在此背景下，全球供应链安全问题被提上了议事日程。据分析人士预测，为了应对新冠肺炎疫情，企业将增加靠近终端市场的制造基地，而不是依赖庞大的生产链。

特别值得一提的是，新冠肺炎疫情加速了企业采用数字化工具以提高制造效率的进程。如果没有庞大的市场压力，这一趋势可能不会这么快发生。这场危机将极大加速人工智能（AI）在供应链中的整合和融入。人工智能技术可以增加市场需求和供给之间的透明度，有助于提高仓储和制造效率。这是一种将技术与供应链相结合的做法，也称为“数字化”。2021 年，中国启动“十四五”规划，并提出 2035 年远景目标，致力于追求更高质量的发展。中国的这些规划和目标与数字化进程密切相关。

新的区域贸易协定将有助于中国保持其在全球供应链中的优势

新冠肺炎疫情爆发以来，许多国家采取了更多的保护主义措施，这对全球自由贸易产生了重大影响。为了保护所有行业部门及其本国人民利益，各国政府越来越多地采取保护主义措施。世界各地的制造商将面临更大的政治和竞争压力，以提高国内产量，增加本国就业，减少甚至消除对“风险”来源的依赖程度，并重新考虑精益生产战略，其中包括尽量减少全球供应链库存。

2020 年 11 月，中国和其他 14 个国家签署了全球最大的贸易协定——《区域全面经济伙伴关系协定》（RCEP）。中国借此表明，国际经济秩序的未来将由亚洲决定。这个自由贸易区的成员国拥有 22 亿人口，占全球贸易总额的 29%。这个庞大的自由贸易区特别具有吸引力，因为该区域的人口明显比欧盟年轻。因此，该区域预计将保持巨大的经济增长率，特别是那些已经迈入后疫情时代的国家。RCEP 贸易协定的核心是降低关税。这有助于精简各成员国之间的贸易流程，并降低综合成本。据估算，此次关税降低政策将涉及各成员国近 90%的出口商品。在该自由贸易区不同国家制造产品零部件的企业也将从中受益。分析人士预测，该贸易协定将扩大

亚太地区的市场规模，为企业在亚太地区生产和销售创造更多机会。协定的实施可为确定产品来源制定共同标准。这有助于巩固中国在区域供应链中的地位，为应对贸易紧张局势和疫情造成的中断增加更多砝码。

此外，中国和欧盟已于 2020 年底完成了《中欧全面投资协议》（CAI）的谈判，赋予了双方企业更广泛领域中的投资准入。这是中国在降低贸易风险、保持全球供应链优势方面的又一重大举措。

与此同时，中国正大力推进“一带一路”倡议，斥巨资开发通往欧洲的北方陆运通道和南方海运通道，试图将周边国家与中国经济更加紧密地联系起来。

“一带一路”倡议覆盖 60%的全球人口和 40%的全球贸易，其中大部分通过海运完成。中国正在大力投资发电站、管道、数据电缆、深水港、公路、机场、火车站和铁路等基础设施。中国将作为投资者或所有者参与其中，或通过专门为此设立的银行向其他参与国提供大量贷款。通过该倡议，中国向世人展示了如何发挥强有力产业政策的最佳效用。

中国旨在于 2021 年实现更大的供应链自主权

2020 年 12 月 16 日至 18 日，年度中央经济工作会议在北京举行。在此次会议上，中国领导人为 2021 年的中国经济发展规划了路线图，其中强调了建设科技强国的目标。此前不久，华盛顿已经切断了多项美国技术的获取渠道。

作为全新发展模式的基础，中国必须构建安全、稳定的产业链和供应链。因此，中国政府提出了加强产业链和供应链独立性和自主性的任务。要在补足短板的同时提升这一实力，尽快解决重点领域和“卡脖子”问题。会议还指出，中国应为基础零部件、先进基础技术和关键基础材料打下坚实基础。这项任务契合中国“十四五”规划纲要（2021-2025 年），该规划将实现科技自立自强列为中国的首要任务之一。信息消费联盟理事长项立刚表示：“按照会议规划，增强产业链和供应链自主可控能力是一项必须实施的战略，因为过去数十年以来，中国已经形成了明显优势，严重依赖基础制造能力已不再可行。”

德国

新冠肺炎疫情导致出口大幅下滑

中美贸易摩擦已经对全球经济造成了严重影响。这场冲突还波及到了德国等依赖国际合作与稳定的出口国。德国经济的很大一部分是出口导向型。这同样适用于劳动力状况：德国四分之一的就业依赖于出口，而在工业部门，这一比例上升到二分之一。只有维持可持续型出口经济，德国企业才能留住这些工作岗位。这意味着，德国经济比其他大多数国家更容易受到国际大环境影响，因此高度依赖开放的市场和公平的贸易与投资规则。

过去一年，新冠肺炎疫情严重影响了德国的出口表现。与 2019 年相比，德国商品出口总额下降了 9.3%。这是自 2009 年全球金融危机以来最严重的一次下滑。当时，德国商品出口总额下降了 18.4%。此次出口下滑可以追溯到新冠疫情在德国的开始阶段：2020 年 3 月，边境关闭、物流受阻和供应链中断显著减缓了出口贸易。紧随而来的还有保护主义措施。

此后，德国商品出口总额实现了连续 8 个月的增长。但即便如此，也无法扭转颓势。2020 年 12 月，出口比上月增长 0.1%。促成这一积极发展的主要因素是德国与世界上两个最大经济体的贸易总额增长。去年 12 月，德国对中华人民共和国的出口额达到 93 亿欧元，与上年同期相比增长了 11.6%。德国对美国的出口额增长了 8.4%，达到 92 亿欧元。普遍观点认为，

在经历 2020 年衰退之后，全球经济将缓慢复苏。这对出口导向型国家而言无疑是一大利好消息。

作为德国最重要的贸易伙伴，中国今年的经济增长率预计为 8.5%。据德国批发、外贸及服务业联合会（BGA）预计，2021 年中德贸易总额将大幅增长，并且最早将在 2022 年夏季恢复到疫情前水平。然而，德国出口贸易总额尚未恢复到疫情前水平。除了新冠疫情的持续影响之外，还有两个特殊因素在其中发挥作用，即英国“脱欧”和半导体供应短缺。就德国与英国的贸易而言，预计 2021 年上半年将出现明显下降。与芯片相关的供应短缺目前正在影响德国汽车行业，因此，出口将受到限制。

德国在关键领域依赖进口

对于德国来说，进口贸易与出口贸易同样至关重要。尽管德国和欧洲不同行业的需求不尽相同，但都依赖进口。这在一定程度上是出于环境因素的政治考量，欧洲各国不愿意消耗本国原材料。其他原材料只有在世界其他地区才能获得足够的数量。对于欧洲各国而言，减少对这些原材料的依赖性十分重要。这些原材料包括手机、光伏组件、锂离子电池、玻璃纤维电缆和合成燃料等高科技产品的关键部件，它们的制造越来越受到供应

短缺的威胁。

由于新兴工业化国家的经济增长和未来新技术的不断出现，这些原材料的市场需求也在不断增加。全球大部分关键原材料的开采都发生在一些特定国家，主要包括中国、俄罗斯、巴西和一些非洲国家。相关预测表明，到 2050 年，仅就电动汽车和能源储备而言，欧洲就需要比目前多 60 倍的锂。正如欧盟委员会副主席 Maroš Šefčovič 所言："对于一个具有弹性的经济体而言，安全和可持续的原材料供应是发展的先决条件。我们不能像目前依赖化石燃料一样依赖关键原材料。新冠肺炎疫情对我们战略价值链的破坏已经清楚地证明了这一点。"

后疫情时代的全球经济走势与建议

中国

中国国际经济交流中心首席研究员张燕生认为，在后疫情时代，全球供应链安全比利润和效率更为重要。世界各国都显著提高了对产业链、供应链和价值链安全的重视程度。增强弹性是稳定供应链和产业链的关键。

各国政府对供应链的干预力度将显著提升，全球“大三角型”产业分工格局也将发生重大变化。在过去，东亚地区主要提供劳动力和制造产能，现在则开始提供服务和创新，甚至提供资本以及金融和货币合作。这是一个典型的分工变化。

世界大国加强了对全球科技竞争优势的主导控制。美国和欧洲的生产网络进一步缩短了产业链和供应链，加速了科技和产业与其他国家的脱钩进程。

产业链和供应链可能更加本地化和区域化。虽然产业链、价值链和供应链越来越短、分散和本地化，但却越来越智能化、自动化和数字化。产业链、价值链和供应链的缩短并不意味着效率低下，而是更具灵活性和弹性。

超级全球化的势头正在减弱，但同时也在推动数字全球化、服务全球化、创新全球化、人才交流全球化——这是未来 30 年我们将面临的新形势。

产业链东移明显加快。这将导致东亚各国加速调整生产模式，从要素

投入增长驱动模式向要素生产率增长驱动模式转变，从全球制造、加工和装配基地向全球市场转变，从制造业中心向制造业和服务业双中心转变。

中国产业供应链弹性战略对跨国企业的潜在影响

为应对日益增加的地缘政治风险并寻求实现雄心勃勃的产业升级目标，中国的政策制定者目前正在重塑外国企业在华的市场环境。为确保长期业务发展，预计在华外国企业将进一步推动供应链本地化，并将研发和制造过程中价值较高的部分转移到中国。企业面临的挑战将是，在不削弱自身竞争力的前提下，提高供应链的弹性。

中国将进一步扩大内需市场，以提高供应链和产业链的稳定性。中国将坚定不移地坚持对外开放，不断改善营商环境，提升供应链和产业链的效率和协同效应。此外，中国还将培育更多优秀企业，大力推进科技创新，并努力提高对供应链和产业链的控制力。

我们可以预见，一些具有国家安全战略意义的全球供应链将会缩短，产业链将呈现本土化趋势。中国制造业仍将保持较强的产业链集群优势。规模经济、产业链支撑能力、劳动力技能等已成为跨国企业进行产业链布

局的优先考虑因素。

跨国企业可以充分利用“一带一路”等机制，实现供应链多元化并增强灵活性，避免过度依赖某些地区或市场，以降低风险，提高供应链整体效率。

德国与欧洲

我们需要开放的市场

当前，全球经济与开放市场紧密联系，为世界各国的繁荣发展作出了重大贡献。自从路德维希·艾哈德（Ludwig Wilhelm Erhard）担任德国第一任经济部长以来，德国的经济政策一直倾向于自由市场和开放贸易。这意味着营造自由、个人责任和低监管的市场条件，实现经济快速增长。我们必须继续加强市场经济建设。否则，由于过度监管和国家干预，我们将失去许多积极的发展优势。对于国际供应链而言，企业本身必须进行成本效益分析。这些企业是国际供应链的参与者。任何国家干预都可能导致严重后果。我们不需要政府的过多“关怀”，这有害无益。我们不需要保护主义，而是必须致力于打造开放市场。

新冠肺炎疫情助推贸易保护主义抬头，并且大有愈演愈烈的趋势。然而，只有推动开放市场和跨国贸易，鼓励各国之间的良性竞争和货物交换，我们的市场经济才能得到适当发展。我个人坚信，以国际公平竞争为原则的全球自由贸易仍是最具吸引力的经济模式。这种模式可以促进经济增长并创造更多就业机会。

事实证明，世界各国的保护主义者和民族主义者非常欢迎新冠肺炎疫情的到来。毕竟，这场危机清楚地表明，你不能依赖邻国，多边贸易威胁到了本国经济，只有封锁边境才能消除外国人构成的风险。因此，新冠危机持续的时间越长，就越会激化在许多社会长期发酵的冲突。许多人坚持闭关锁国，他们希望有一个强大的国家来抵御全球化的进一步发展。但是，这种观点有一个问题。长期以来，我们的经济早已在全球范围内相互关联。在所有价值链体系中，我们已经建立了一种有效的国际分工模式，让全球数百万人甚至数十亿人摆脱了赤贫。全球化是一个十分成功的发展模式。我们绝对不能逆向而行。

我们需要稳定的供应链

供应链缩短势必将导致成本大幅增加。对于企业而言，这无疑是一个

负面消息，也很难向消费者证明价格上涨的合理性。在未来，我们需要良好的应变和稳定能力，以便顺利度过各种危机。这不是缩短供应链的问题，而是让供应链更加稳定的问题。这意味着，关键产品必须有多个供应商。在过去，许多企业降低了供应商数量，从而造成了对某些供应商的依赖。

在许多行业，大部分生产依赖于来自中国和印度的原材料。我们必须在不牺牲全球化经济优势的情况下降低对原材料的依赖程度。货物进口不应依赖于某个出口国，无论该国在地理位置上是近是远。如果供应商的产品不能交付给客户，那么供应商是在中国还是在欧洲并不重要。企业必须从多个来源获取原材料供应，以防止供应短缺甚至供应中断，并顺利度过长期危机。

企业必须未雨绸缪，找出价值链中的弱点，制定稳定、可靠的发展战略，特别是针对关键系统领域。例如，赢创已于 2020 年 7 月 1 日建立了一个全集团层面的供应链管理体系。通过集团化组织，我们可以改进和规范业务流程，并就供应链管理形成共识。如此一来，我们可以确保所有产品和原材料顺利、安全地到达目的地，并符合成本和交货日期要求。

许多人预测，此次新冠危机将导致全球化终结。但是，我并不赞同。

在我看来，问题的根源在于供应链和销售市场，而不是全球化生产。与之相反，我相信许多企业将采取更加国际化的思维模式，并将相应地做出调整，以便在危机时期也能继续为客户服务。德国化工行业就是如此。这些企业在北美和亚洲基地生产大量商品。他们应该这样做。如果企业能够直接在销售市场完成生产，那么便会减少供应链和保护主义方面的问题。

我们需要可持续的供应链

接下来，我希望探讨一下可持续性的问题。我们不仅需要稳定的供应链，而且需要可持续的供应链。这意味着：我们必须维护员工权利，遵守环境标准。企业必须对产品的生产条件负责。

早在 2013 年，德国联邦化学工业雇主协会（BAVC）、德国化工协会（VCI）和德国矿产、化学和能源工业联盟（IG BCE）就共同创建了可持续发展倡议“Chemie³”。该倡议致力于将可持续发展作为行业的指导原则，并在经济、环境和社会三个维度践行可持续发展理念。该倡议还制定了可持续供应链管理指南。这个项目是一个成功范例。它向我们展示了如何通过共同努力，以提高可持续性标准在供应链中的杠杆作用。赢创还加入了“携手可持续发展”（Together for Sustainability）倡议。这是一项全

球化工企业的联合倡议和网络，旨在改善供应链的可持续性。通过履行责任关怀义务，企业将从更加稳定的供应链中获益，同时也将承担相应的责任。

德国政府正责成各大企业在全球供应链中更加重视人权保护，并承诺实施一项国家层面的供应链立法。2 月 11 日，就最终细节达成一致之后，相关政府部门仅在 4 天后便提交了一份《企业供应链尽职调查法》的草案。这项法律预计将于 2023 年 1 月 1 日生效，最初将适用于超过 3000 名雇员的企业。作为一家跨国公司，赢创将受到这项法律约束。

新法律的主要内容是明确了企业应尽的人权尽职调查义务。这些“受法律保护的权利”包括生命、健康、工作条件、儿童保护、结社自由和环境义务。为了确保法律实施效果，相关企业必须引进风险分析和风险管理工具。此外，法律还要求这些企业提供全面的文件记录和报告。

此外，相关企业必须持续审查尽职调查义务的履行情况，并在财政年度结束时将其记录在报告之中。

与最初计划相比，德国联邦政府已经大幅削减了这一《企业供应链尽

职调查法》妥协版本的规定内容，特别是对供应链尽职调查义务的范围和民法规定的问责制两个有争议的方面进行了修订。目前，该项法律只涉及直接供应商。这非常合理，因为从技术上说，企业不可能监控其整个供应链。民法规定的责任免除是法律确定性的重要基础。这对赢创而言至关重要，因为我们希望保护自身商业利益。政治问题应该留给政策制定者去考量。保护人权是各国政府的义务，不应该通过国家供应链法律框架，将这一责任单方面转移给企业。与此同时，政策制定者不应为企业做出商业决策，否则就意味着市场经济的终结。然而，作为一家负责任的企业，我们必须遵守所在业务领域的人权保护标准。我们必须制定一套切实可行的解决方案，而且仅限于直接供应商。

总体而言，整个欧盟层面的供应链立法解决方案比多个国家的备选方案更加可取，因为分散的解决方案无法反映全球网络化供应链的现实。它们会导致法律上的不确定性，从而降低企业的竞争力。

欧洲必须在产业政策方面采取更具战略性和独立性的立场

通过实施各类经济刺激计划，欧盟已经传递出了强烈信号，即希望推动整个欧洲共同发展。我们非常欢迎这种做法，因为只有一个强大、团结

的欧洲，才能带领欧盟各国实现未来繁荣发展。只有携手努力，我们才能保持竞争力，迎接全球挑战。我们必须更加努力地发展这种力量。欧洲只有团结一致、强强联合、声调一致，才能取得成功。

尽管欧盟只占全球人口的 6.9%，但是与世界其他国家的贸易总额却达到了全球进出口总额的 15.6%。但是，这一数字正在迅速变化。此外，由于欧盟成员国迄今尚未就联合行动的重要性达成共识，欧盟的未来发展前景更加堪忧。

我们需要一项共同的欧洲对外贸易政策，而不是欧盟个别国家所达成的双边协议的集和。我们只有携手努力，才能确保欧盟的经济和技术主权。我们只有积极联合，才能确保欧盟的整体竞争力。我们已经与中国签署了《中欧全面投资协定》。但这只是第一步，我们仍需采取更多行动。

推动欧洲经济持续发展壮大的基本前提，是巩固和扩大其工业基础。欧洲各大工业为 3500 万人提供了就业和收入，为欧盟贡献了 20%的总价值，占欧盟出口总额的 80%。此外，它们是占欧盟企业总数 99% 的众多中小企业的立足点和归宿地。这些企业既是工业的供应商，同时也是客户。这是一种共生关系，企业之间的发展利益紧密相连、息息相关。仅欧盟境

内的 28,000 家化工企业就为 330 万人提供了就业机会。

此类核心工业就是欧洲经济的支柱，必须予以扶持和加强。归根结底，如果没有工业，就没有增长，就没有价值创造，就没有经济复苏。当新冠肺炎大流行结束时，这些正是我们所需要的。

结论

我认为，在过去一年里，如果我们学到一件事，那就是危机不分国界。单一国家无法应对疫情等全球挑战，也无法应对气候变化、移民或维和等难题。我们大家都应该清楚，国家“单干”战略有害无益。在这个紧密联系的世界里，我们不能将自己孤立于我们的邻居之外。只有在多边体制框架内，我们才能保持经济繁荣、社会发展和政治稳定。

无论我们身处何地，新的贸易壁垒和边境围墙势必将阻碍我们的共同发展。我们依赖自由贸易。在此次新冠危机中，国际供应链无法平稳运行，特殊原材料和上游产品的获取渠道被迫中断，货物在边境突然停运和延误，我们应该明白这一切意味着什么。

受影响的不仅仅是经济。如果保护主义和民族主义盛行，我们的自由也会受到威胁。欧洲的历史表明，消除贸易壁垒和有形壁垒以及加强整个大陆的合作和一体化，有助于实现和平与自由。英国脱欧也将表明，在这个紧密联系的世界里，单打独斗的政策不会取得成功。

因此，我们必须坚决反对民族主义和孤立主义。应对全球挑战的正确答案并不是孤立主义和国家私利，而是国际合作。我们需要建立开放、互信的合作伙伴关系。此次新冠危机表明，我们的团结其实是多么脆弱、多么珍贵。因此，我们应该通力合作、团结一心，坚决反对孤立主义。为了我们自己的利益，也为了我们共同的未来。

Global supply chain: balancing security and efficiency

Evonik Industries AG

Executive Summary

Since the beginning of 2020 the coronavirus has determined our public and private lives as well as the measures required to keep it under control. The pandemic has had a huge effect on the global economy and has led to a massive decline in world trade. At the same time, it has brought into clear focus the interlinking of society, economy and environment. For the last 40 years, the lion's share of global production has been organized through global value chains, which make up two thirds of global trade. The outbreak of the pandemic has had a major impact on this international division of labor. Production chains and supply chains were unsustainable and have been disrupted ever since. One thing became very clear: We are dependent on supply chains and when these are interrupted, production facilities come to a stop.

International supply chains were declining or stagnating even before corona. Since 2018 and the outbreak of trade disputes between the USA and China, there has been a sharp increase in protectionist trade barriers. Due to the pandemic, investment, consumption, industrial chain, supply chain and value chain have suffered serious defeat. In this context, global supply chain security has been put on the agenda. Analysts predict the shock of the coronavirus means businesses will increase their options for manufacturing closer to end markets, rather than relying on a sprawling chain of factories. In particular, the pandemic has accelerated businesses' adoption of digital tools to increase manufacturing efficiency, a trend which might not have happened as quickly without market pressure.

The corona crisis and the resulting increase in protectionist measures adopted by many countries are having a major impact on free trade. In order to protect entire industrial sectors and especially their own populations, governments are increasingly resorting to protectionist measures. Manufacturers worldwide are going to be under greater political and competitive pressures to increase their domestic production, grow employment in their home countries, reduce or even eliminate their dependence on sources that are perceived as risky, and rethink their use of lean manufacturing strategies that involve minimizing the amount of inventory held in their global supply chains.

New regional trade deals will help China sustain its advantages in global supply chains. China and 14 other countries signed the Regional Comprehensive Economic Partnership (RCEP) in November 2020, forming the largest trade pact in the world. Analysts predict the deal will increase the market size of Asia-Pacific, creating more opportunities for companies to produce and sell within the region. Moreover, by the end of 2020, China and the European Union (EU) completed negotiations for a comprehensive agreement on investment (CAI), giving companies in each area wider investment access in the other area. This marks another move for China to mitigate risks and sustain its advantages in global supply chains.

The trade dispute between the USA and China has already caused severe damage to the global economy. This conflict also impacts on an export nation such as Germany, which is dependent on international collaboration and stability. The corona pandemic resulted in a massive collapse in German exports. The decline in exports can be traced back to the beginning of the pandemic in Germany: In March 2020, border closures, disrupted logistics, and interrupted supply chains significantly slowed the export trade. But it is not only exports that are important for Germany. Imports are also critical.

The following trends are to be expected for the time after the pandemic: All countries in the world have significantly enhanced the importance attached to the safety of industrial chain, supply chain and value chain. Enhancing resilience is the key to the stability of the supply chain and the industrial chain. The government's intervention in the supply chain will obviously increase, and the international triangle of labor division pattern will be significantly changed. Industrial chains and supply chains may be more localized and regionalized. Although the industrial chain, value chain and supply chain are getting shorter, more dispersed and localized, they are more intelligent, automated and digital. The challenge for companies will be to make their supply chains more resilient without weakening their competitiveness.

What we need in the future is resilience and stability in the event of a crisis. It is not a question of shortening supply chains but rather of making them more stable. This means: There must be more than one single supplier for key products. In the past, many companies reduced the number of their suppliers and in doing so, created a dependency on them. These dependencies must be reduced without sacrificing the advantages of a globalized economy. Companies must secure their supplies of raw materials from multiple sources in order to prevent supply shortages or even supply failures and to help them survive extended periods of crisis.

Many have predicted the end of globalization as a result of the corona crisis, but I do not agree. On the contrary, I believe that many companies will take an even more international view and will align themselves accordingly to enable them to continue to serve their customers even in times of crisis. This is the case with the German chemical industry. In Asia and North America, these companies produce a huge amount of goods on site. And this is how it should be. If you can manufacture directly in the sales markets, you will have fewer problems with supply chains and protectionism.

Another topic is the question of sustainability. We need not only stable supply chains but sustainable supply chains. This means: We must observe employee rights and comply with environmental standards. Companies must assume responsibility for the conditions under which their products are manufactured. Through the implementation of their duty of care, companies also benefit from significantly more stable supply chains. Policy makers cannot make business decisions for companies. This would quickly represent the end of the market economy for us. However, it is our duty as companies to comply with human rights standards in our field of activity.

The system of interlinked global economy with open markets has made a significant contribution to the prosperity of people worldwide. We don't need protectionism but committed efforts to create open markets. For me there is no doubt: Free global trade with fair international competitive conditions was and remains the most attractive economic model. This is the model that creates the stimulus for economic growth and employment. Our economies have been globally interconnected for a long time now. In all our value chains, a working international division of labor has been established, which has lifted many millions, even billions, of people out of abject poverty. Globalization has been a success story, which must not be reversed.

I think, over the past year, if we have learned one thing, it is that crises do not recognize borders. There are no national solutions for global challenges such as pandemics, nor are there national solutions for climate change, migration, or peacekeeping. In our networked world, we cannot afford to isolate ourselves from our neighbors. We can only maintain economic, social and political stability within a multilateral system. New trade barriers and border fences are toxic to our prosperity, to us all, wherever we are in the world. We depend on free trade. Isolationism and national self-interest are not the answers to global challenges: These can only be met with international cooperation. We need openness and trusting partnerships. For our own good. And for our common future.

Global supply chain: balancing security and efficiency

Paper presented by Evonik Industries AG

Christian Kullmann, Chairman of the Executive Board, Evonik Industries

Introduction

All at once the world came to a standstill. And with it, trade and the global economy. The immediate impact was not the same everywhere but, bit by bit, every continent was affected. Since the beginning of 2020 the coronavirus has determined our public and private lives as well as the measures required to keep it under control. Even today, nobody can say how much longer the pandemic will last. It quickly became evident that the virus would result in major economic damage. The coronavirus has had a huge effect on the global economy and has led to a massive decline in world trade. At the same time, it has brought into clear focus the interlinking of society, economy and environment. For the last 40 years, the lion's share of global production has been organized through global value chains, which make up two thirds of global trade. Raw materials and intermediate products from various countries are shipped around the world and processed in other countries. The finished products are then exported again to the end consumers. The outbreak of the pandemic has had a major impact on this international division of labor.

The pandemic has demonstrated how fragile the economic cycles in a globalized world really are. It began in China and spread to Europe and then North and South America and Africa. Nearly all the countries affected introduced restrictions in order to contain the spread of the virus. These included production stops in many economic sectors. Production chains and supply chains were unsustainable and have been disrupted ever since. There is no doubt that the worldwide lockdown has given us an insight into the downside of globalization. Governments have closed off their economies and are relying increasingly on protectionist measures. Around the world, tariffs and other trade barriers impeded the international exchange of goods. One thing became very clear: We are dependent on supply chains and when these are interrupted, production facilities come to a stop. This begs the question: Just how stable are our global production structures? Do companies need to rethink their existing business model? Will our supply chains be different after the pandemic has ended?

“If we look at the economic conditions for industry and also at the priorities of national politics in the different countries, we estimate that between 16 and 26 percent of global exports, worth between 2.9 and 4.6 billion euros, could be transferred to new destination countries over the next five years if companies make an effort to restructure their supplier networks," says McKinsey Global Institute (MGI). Since the turn of the century, companies have increasingly outsourced their production to Asia, for example, to take advantage of much more favorable conditions. In the future, however, pure production costs may become less critical as security, planning certainty, and resilience become more important. This could result in a return of outsourced production to the original country or a transfer to physically closer manufacturing countries – for German companies, this might be from China to other European countries. "Corona seems to be accelerating some of the trends already affecting global supply chains, including regionalization of trading and manufacturing networks. Rising levels of automation in manufacturing is reducing the significance of lower labor costs," according to MGI. Researchers point out that, over a ten-year period, companies will lose at least 42 percent of a typical year's net profits before tax due to disruptions in their supply chain.

International supply chains were declining or stagnating even before corona

This trend is especially apparent in Germany in the chemical industry. Between

2011 and 2014, the global supply chains in this sector have shrunk by approximately 2.5 percent. This decline affects primarily precursor products that are delivered to Europe or to the USA. The financial crisis of 2008 led to many companies reevaluating their global supply chains. According to WTO calculations, in the period from 2014 to 2017, trade via short value chains in which a precursor only crossed one international border, declined significantly. One reason could be that higher wages in the newly industrialized countries are reducing labor cost differentials compared to the already industrialized nations. Trade via complex value chains, in which precursor products cross several international borders and are subject to several processing steps, was relatively stable until 2017. But since 2018 and the outbreak of trade disputes between the USA and China, there has been a sharp increase in protectionist trade barriers. These barriers have a major impact on value chains.

The trade war and protectionism measures have clearly put the resilience of supply chains to the test

Even before the current pandemic broke out, there were increasing signs of change in global trade. The USA with its “America first” campaign was shifting toward protectionism. Trump’s government had a nationalist focus with regard to external trade, the country’s trade policy focus was no longer free trade but reciprocal trade. It was not merely a question of increasing domestic added value and creating jobs, it was also a matter of national security. Protection of national security meant that the USA's key industries should have supply chains that are independent of China. In place of the previous policy of involvement and integration, the USA has economically disengaged from China. The trade policy instruments used in such a decoupling initiative include tariffs, investment controls and supply boycotts.

Joe Biden as the new president will certainly help to defuse some of these conflicts but protectionism is here to stay. What will change is the tone and how the countries interact with each other. The new mood makes it more likely that reasonable solutions can be found to trade issues. This creates a climate of predictability and ensures greater planning certainty, from which German companies also stand to gain. Biden is likely to place greater focus on international collaboration. This would be a positive signal for multilateral trade relations. But it is important to remain realistic: A new government cannot suddenly reverse the policies of the past four years. There will be continued friction as Biden also pursues a policy of "America first" with regard to production and jobs. His government's initial reaction to proposed new trade agreements was to reject them.

In Europe too, free trade agreements have failed, most recently the Transatlantic Trade and Investment Partnership, and previously the Multilateral Investment Agreement (MAI), which failed in 1998 due to resistance from the then French government under President Jacques Chirac. So far, the European Union has not been able to turn its vision of free trade into reality. The Union's strategies have a very short-term horizon. Their ecological focus on Europe is well intentioned but they are completely lacking in geopolitical ambition. We will pay the price for this if we continue this inconsistent path. We Europeans have become comfortable with a certain degree of multilateralism, but we need to adapt to the significant changes that have taken place.

Europe is going to have to respond to the developments in the USA and China. To facilitate this, we must replace our morals-based approach with an interest-led strategy. Ultimately, countries do not have friends. They have interests.

China

The coronavirus hits supply chains and accelerates digitalization

Due to the pandemic, investment, consumption, industrial chain, supply chain and value chain have suffered serious defeat. In this context, global supply chain security has been put on the agenda. Analysts predict the shock of the coronavirus means businesses will increase their options for manufacturing closer to end markets, rather than relying on a sprawling chain of factories.

In particular, the pandemic has accelerated businesses' adoption of digital tools to increase manufacturing efficiency, a trend which might not have happened as quickly without market pressure. This crisis will significantly accelerate the integration and the penetration of artificial intelligence (AI) into this supply chain. AI can increase transparency between demand and supply, helping to improve warehouse efficiency and manufacturing. Such incorporation of technology with supply chains, also referred to as digitalization, ties in with China's aim for higher quality development, as laid out in the 14th Five-Year Plan that kicks off in 2021 and in China's goals for the year 2035.

New regional trade deals will help China sustain its advantages in global supply chains

The corona crisis and the resulting increase in protectionist measures adopted by many countries are having a major impact on free trade. In order to protect entire industrial sectors and especially their own populations, governments are increasingly resorting to protectionist measures. Manufacturers worldwide are going to be under greater political and competitive pressures to increase their domestic production, grow employment in their home countries, reduce or even eliminate their dependence on sources that are perceived as risky, and rethink their use of lean manufacturing strategies that involve minimizing the amount of inventory held in their global supply chains.

China and 14 other countries signed the Regional Comprehensive Economic Partnership (RCEP) in November 2020, forming the largest trade pact in the world. China has thus demonstrated that the future of the international economic order will be determined in Asia. 2.2 billion people live in the member states of this free trade zone, and this represents 29 percent of the world's total trade volume. This massive free trade zone is also especially attractive because the population there is significantly younger than that of the EU. Consequently, huge growth rates are expected, especially in those regions where the post-pandemic era has already begun. At the core of the project is the reduction of tariffs. This simplifies trade between the participating countries and reduces costs. In total, tariffs are expected to fall for almost 90 percent of the goods that the member states exchange. Companies who manufacture parts of their products in different countries of the free trade zone also stand to benefit. Analysts predict the deal will increase the market size of Asia-Pacific, creating more opportunities for companies to produce and sell within the region. When implemented, it creates a common standard for defining the source of a product, which helps anchor China in regional supply chains, serving as a potential counterweight to disruptions from trade tensions and the pandemic.

Moreover, by the end of 2020, China and the European Union (EU) completed negotiations for a comprehensive agreement on investment (CAI), giving companies in each area wider investment access in the other area. This marks another move for China to mitigate risks and sustain its advantages in global supply chains.

At the same time, with its "One Belt, One Road" initiative, China is investing huge sums in the development of the northern overland route and the southern maritime route to Europe in an attempt to tie the adjoining countries to the Chinese economy.

The overall project affects 60 percent of the world's population and 40 percent of global trade, most of which occurs by sea. China is investing in infrastructure, that is, in power stations, pipelines, data cables, deep-water ports, roads, airports, rail stations, and rail lines. China is involved either as investor or owner or it grants generous loans to the other participating countries via a bank that has been set up especially for this purpose. With this initiative, China is demonstrating impressively how a powerful industrial policy can work.

China aims for more supply chain autonomy in 2021

During the annual Central Economic Work Conference held in Beijing from December 16 -18, 2020, Chinese leaders charted a course for economic development in 2021, in which the building of a science and technology power was highlighted, just as Washington is cutting off access to US technology.

As the foundation for building a new development pattern, the industrial and supply chain should be secure and stable. Thus, Beijing has set the task of enhancing independence and autonomy of the industrial and supply chain. It is necessary to promote this strength while filling the gap, to solve the key areas and “stranglehold” problems as soon as possible, the meeting said. It also pointed out that China should lay a firm foundation for basic components, advanced basic technology, and key basic materials. The task is in line with the broad outline of China's 14th Five-Year Plan (2021-2025), which makes technological autonomy one of the country’s top priorities. “It is a must-have strategy to enhance autonomy of the industrial supply chain as charted in the conference as it is no longer workable to rely heavily on the basic manufacturing capabilities where China has forged a definite advantage over the past decades," said Xiang Ligang, director-general of the Information Consumption Alliance.

Germany

The corona crisis resulted in a massive collapse in exports

The trade dispute between the USA and China has already caused severe damage to the global economy. This conflict also impacts on an export nation such as Germany, which is dependent on international collaboration and stability. Large parts of the German economy are export-led. And this applies also to the labor situation: One job in four in Germany is dependent on exports, in the industrial sector, this figure rises to one in two. German companies can only maintain these jobs in Germany if there is a sustainable export economy. This means that the Germany economy, more than most others, is internationally interlinked and is therefore dependent on open markets and fair rules for trade and investment.

Over the past year, the corona crisis has severely affected Germany's export performance. Compared to 2019, German exports of goods collapsed by 9.3 percent. This was the steepest decline since the global financial crisis in 2009. Back then, exports declined by 18.4 percent. The decline in exports can be traced back to the beginning of the pandemic in Germany: In March 2020, border closures, disrupted logistics, and interrupted supply chains significantly slowed the export trade. Then came the protectionist measures.

After this, exports did increase for eight months in a row but even this did not offset the initial slump. In December 2020, exports increased by 0.1 percent compared to the previous month. The primary contributor to this positive development was the trade with the world's two largest economies: In December, exports to the People's Republic of China amounted to 9.3 billion euros. This was an increase of 11.6 percent compared to the same month in the previous year. Exports to the USA grew by 8.4 percent to 9.2 billion euros. The widely predicted recovery of the global economy following the recession of 2020, promises to be a bonus for exporters.

This year's forecast economic growth for China, which is Germany's most important trading partner, is 8.5 percent. The foreign trade federation BGA anticipates a significant increase in trade in 2021. Pre-crisis levels are expected to be achieved as early as summer 2022. However, the export trade has not yet recovered to its pre-crisis level. In addition to the ongoing consequences of the corona crisis, two special factors play a role here: Brexit and supply shortages for semiconductors. As far as trade with Great Britain is concerned, a clear decline is expected during the first half of 2021. The supply shortages relating to chips are currently impacting on automotive production and, as a consequence, exports are restricted.

Germany dependent on imports in key areas

It is not only exports that are important for Germany. Imports are also critical. Here the different industries in Germany and Europe have different needs but they are all dependent on imports. This is partly due to the political unwillingness, led by environmental concerns, to harvest the raw materials domestically. Other raw materials are only available in sufficient quantities in other parts of the world. What is important here is to reduce these dependencies. These raw materials include key components of high-tech products such as cellphones, photovoltaic modules, lithium-ion batteries, glass fiber cables, and synthetic fuels: Their manufacture is increasingly threatened by supply shortages.

The demand for these raw materials is also increasing as a result of the growth of the newly industrialized countries and the emergence of new future technologies. Much of the global extraction of key raw materials takes place in a few select countries. These are primarily China, Russia, Brazil and some African countries. If some forecasts prove correct, Europe will require almost 60 times more lithium by 2050 for electric cars and energy storage alone. As EU Commission Vice-President Maroš Šefčovič says: “A secure and sustainable supply of raw materials is a prerequisite for a resilient economy. We cannot allow ourselves to replace our current reliance on fossil fuels with dependency on critical raw materials. This has been clearly demonstrated by the disruptions to our strategic value chains that have been caused by the coronavirus.”

Trends and recommendations for the time after the pandemic

China

Zhang Yansheng, Principal Researcher of the China Center for International Economic Exchanges, sees the following trends: In the post-pandemic era, global supply chain security is more important than profit and efficiency. All countries in the world have significantly enhanced the importance attached to the safety of industrial chain, supply chain and value chain. Enhancing resilience is the key to the stability of the supply chain and the industrial chain.

The government’s intervention in the supply chain will obviously increase, and the international triangle of labor division pattern will be significantly changed. In the past, East Asia provided mainly labor and manufacturing capacity, and now it has begun to provide services and innovation, and even capital as well as financial and monetary cooperation. This is a typical change in the division of labor.

The world's major powers have strengthened their dominant control over the competitive advantage of global science and technology. The production network of the United States and Europe further shortens the industrial chain and supply chain and accelerates the decoupling of science and technology and industry from other countries.

Industrial chains and supply chains may be more localized and regionalized. Although the industrial chain, value chain and supply chain are getting shorter, more dispersed and localized, they are more intelligent, automated and digital. So short does not mean low efficiency, but rather more flexible and resilient.

Super-globalization is shrinking, but at the same time it is driving digital globalization, service globalization, innovation globalization, and personnel exchange globalization - a new situation that we will face in the next 30 years.

The eastward shift of the industrial chain has obviously accelerated. This will lead to an accelerated adjustment of production patterns in East Asia, from a factor-input growth driven model to a factor-productivity growth driven model, from a global manufacturing, processing and assembly base to a global market, from a manufacturing hub to a dual-hub of both manufacturing and services.

Potential impact of China's industrial supply chain resilience strategy on multinational companies

Chinese policy makers, responding to increased geopolitical risk and seeking to reach ambitious industrial upgrading targets, are currently reshaping the market environment for foreign companies in China. For securing long-term business prospects, companies are expected to localize their supply chains and shift R&D and higher value parts of their manufacturing processes to China. The challenge for companies will be to make their supply chains more resilient without weakening their competitiveness.

China will further expand the domestic demand market in order to improve the stability of the supply chain and the industrial chain. The country will firmly adhere to opening up and continuously improving the business environment to advance the efficiency and synergy of the supply chain and the industrial chain. More excellent enterprises will be cultivated, and scientific and technological innovation will be vigorously promoted to improve the control of the supply chain and the industrial chain.

It can be expected that some global supply chains of national security strategic significance will be shortened in length, with the trend of localization of industrial chains. China's manufacturing industry still maintains a strong advantage of industrial chain cluster. Economies of scale, industrial chain supporting capacity, labor skills, etc. have become the priority consideration indicators for multinational companies to carry out industrial chain layout.

Multinationals could make full use of the "Belt and Road" and other mechanisms to diversify the supply chain, enhance flexibility and avoid over-reliance on some regions or markets, to reduce risks and enhance the overall efficiency of the supply chain.

Germany and Europe

We need open markets

The system of interlinked global economy with open markets has made a significant contribution to the prosperity of people worldwide. Ever since

Ludwig Erhard's term as Germany's first economics minister, economic policy in Germany has always favored free markets and open trade. This means creating the conditions of freedom, individual responsibility and low regulation that enable the economy to grow quickly. We must continue to strengthen the market economy. Otherwise, we stand to lose many positive features due to overregulation and state intervention. And with regard to international supply chains: Companies themselves must carry out a cost-benefit analysis. The companies are the players in the supply chains. Any intervention by the state can result in severe consequences. We don't need more state nannying but less. We don't need protectionism but committed efforts to create open markets.

Protectionism is certainly a side-effect of the pandemic that will continue to grow. However, our market economy can only develop properly if we allow trade to take place in open markets and across national borders, and if competition and goods exchange exists between countries. For me there is no doubt: Free global trade with fair international competitive conditions was and remains the most attractive economic model. This is the model that creates the stimulus for economic growth and employment.

The pandemic has proven to be a welcome gift for protectionists and nationalists around the world. After all, the crisis has shown clearly that you cannot rely on your neighbors, that mutual trading threatens one's own economy, and that foreigners pose a risk that only sealing off one's borders can mitigate. Therefore, the longer the corona crisis goes on, the more it inflames a conflict that has been festering in many societies for a long time. Many people are insisting on sealing off their society and they want a strong state to defend against further globalization. But there is a problem with this view. Our economies have been globally interconnected for a long time now. In all our value chains, a working international division of labor has been established, which has lifted many millions, even billions, of people out of abject poverty. Globalization has been a success story, which must not be reversed.

We need stable supply chains

A shortening of supply chains would certainly lead to significant cost increases and would be a negative development as far as companies are concerned. It would also be very difficult to justify price increases to consumers. What we need in the future is resilience and stability in the event of a crisis. It is not a question of shortening supply chains but rather of making them more stable. This means: There must be more than one single supplier for key products. In the past, many companies reduced the number of their suppliers and in doing so, created a dependency on them.

In many industries, most of the production depends on raw materials from China and India. These dependencies must be reduced without sacrificing the advantages of a globalized economy. The import of goods must not be dependent on one single exporting country no matter how geographically close or distant it is. If a supplier's products cannot be delivered to the customer, then it does not matter whether the supplier is based in China or in Europe. Companies must secure their supplies of raw materials from multiple sources in order to prevent supply shortages or even supply failures and to help them survive extended periods of crisis.

They must make provisions for times of difficulty, identify weaknesses in value chains, and develop stable and reliable strategies, especially for system-relevant areas. Here at Evonik, for example, we established a Group-wide supply chain management as of July 1, 2020. With a Group-wide organization, we can improve and standardize processes and create a common understanding of supply chain management. This way, we ensure that all products and raw materials get to their destinations smoothly and securely, and that costs and deadlines are adhered to.

Many have predicted the end of globalization as a result of the corona crisis, but I do not agree. In my view, the problems are rooted in the supply chains and sales markets and not in globalized production. On the contrary, I believe that many companies will take an even more international view and will align themselves accordingly to enable them to continue to serve their customers even in times of crisis. This is the case with the German chemical industry. In North America and Asia, these companies produce a huge amount of goods on site. And this is how it should be. If you can manufacture directly in the sales markets, you will have fewer problems with supply chains and protectionism.

We need sustainable supply chains

Another topic is the question of sustainability. We need not only stable supply chains but sustainable supply chains. This means: We must observe employee rights and comply with environmental standards. Companies must assume responsibility for the conditions under which their products are manufactured.

Back in 2013, the German Federation of Chemical Employers' Associations (BAVC), the German chemical industry association (VCI), and the Mining, Chemical and Energy Industrial Union (IG BCE) came together to create the sustainability initiative "Chemie3". The initiative is committed to anchoring sustainability as a guiding principle in the industry, and to viewing sustainability through the three dimensions of economy, environment and society. The initiative also produced a guide to sustainable supply chain management. This project is a successful example of how we can work together to increase the leverage of sustainability standards in the supply chain. Evonik is also engaged in "Together for Sustainability", a joint initiative and network of global chemical companies with the goal of improving sustainability in supply chains. Through the implementation of their duty of care, companies benefit from significantly more stable supply chains. And they also take responsibility.

The German government is putting the onus on companies to pay greater attention to the observance of human rights throughout the global supply chain and it has committed to introducing a national supply chain law. Following agreement on the final details on February 11, the relevant government ministries submitted a draft bill just four days later for a "law on corporate due diligence in supply chains". The law is expected to come into force on January 1, 2023 and will initially apply to companies with more than 3,000 employees. As an international company, Evonik is affected by this legislation.

The main component of the new law is the definition of the obligation on companies to carry out due diligence with regard to human rights. These "protected legal positions" include life, health, conditions of work, child protection, freedom of association, and environmental obligations. To ensure this protection, the affected companies must introduce instruments for risk analysis and risk management. Furthermore, the law calls for the companies to provide comprehensive documentation and reporting.

Compliance with the due diligence obligations must be reviewed on an ongoing basis and this must be documented in a report at the end of the financial year.

The compromised version of this supply chain law, which has been agreed by the federal government, has been considerably weakened compared to initial plans. In particular, the two controversial items relating to the extent of the duty of diligence in the supply chain and accountability under civil law have been amended. The fact that the law now only covers direct suppliers is a positive since it is not technically possible to monitor the entire supply chain. The exclusion of accountability under civil law is an important basis for legal certainty and it is a critical element for Evonik as the company seeks to protect its business interests. Political issues should be left to policy makers. The protection of human rights is the obligation of governments and this responsibility must not be transferred unilaterally to companies in the framework of a national supply chain law. At the same time: Policy makers cannot make business decisions for companies. This would quickly represent the end of the market economy for us. However, it is our duty as companies to comply with human rights standards in our field of activity. There must be a practical solution and it must be restricted to direct suppliers.

In principle, a European solution for a supply chain law is preferable to several national variants because individual solutions do not reflect the reality of globally networked supply chains, they lead to legal uncertainty and, as a consequence, they compromise companies' competitiveness.

Europe must take a more strategic and independent position with regard to industrial policy

Europe has sent a strong message via its major economic stimulus program. This is an act that focuses attention on a common Europe. This is to be welcomed since only a strong, united Europe can lead the continent to a prosperous future. Only by working together, can we remain competitive and meet the global challenges. We must work harder to develop this strength. Europe can only be successful if it sticks together, combines its strengths, and speaks with one voice.

Although the EU share of the world population is only 6.9 percent, EU trade with the rest of the world makes up some 15.6 percent of global imports and exports. But these ratios are fleeting, and they will become even more so as the member states of the European Union have so far not developed a common understanding of the importance of joint actions.

We need a common European foreign trade policy and not a collection of bilateral deals made by individual EU countries. We can only secure our economic and technological sovereignty by working together. An active union is the currency of Europe's competitiveness. We have initiated the EU-China Comprehensive Agreement on Investment. But this can only be the first step. Further steps need to follow.

An essential prerequisite for a permanent strengthening of the European economy is to secure and expand its industrial base. European industry provides 35 million people with work and income, it contributes 20 percent of the total value created by the European Union, and it represents 80 percent of all EU exports. Furthermore: It is the starting point and also the destination of the many small and medium-sized companies in the European Union, who make up 99 percent of all EU companies. These are suppliers to industry and, at the same time, also customers; a symbiosis in which any losses suffered by one partner are inevitably accompanied by losses to the other. The 28,000 chemical companies within the EU alone provide employment for 3.3 million people.

Industrial cores such as this form an economic backbone, which must be supported and strengthened. Ultimately, if there is no industry, there is no growth, no value creation, no economic recovery. And when this pandemic is finally over, these are exactly the things that we need.

Conclusion

I think, over the past year, if we have learned one thing, it is that crises do not recognize borders. There are no national solutions for global challenges such as pandemics, nor are there national solutions for climate change, migration, or peacekeeping. It should be clear to all of us that national go-it-alone strategies only do damage to us all. In our networked world, we cannot afford to isolate ourselves from our neighbors. We can only maintain economic, social and political stability within a multilateral system.

New trade barriers and border fences are toxic to our prosperity, to us all, wherever we are in the world. We depend on free trade. In the corona crisis, we are seeing what it means when international supply chains no longer run smoothly, when access to specific raw materials and precursor products is cut off, and goods are suddenly stopped and delayed at borders.

And it is not only the economy that is affected. Our freedom is also at risk if protectionism and nationalism prevail. The history of Europe illustrates how the removal of trade barriers and physical barriers together with increased cooperation and integration across the entire continent have helped to bring about peace and freedom. Brexit too will show that go-it-alone policies do not pay off in our networked world.

For this reason, it is important to us to stand firm against nationalism and isolationism. Isolationism and national self-interest are not the answers to global challenges: These can only be met with international cooperation. We need openness and trusting partnerships. The corona crisis has shown just how fragile our togetherness really is. And how precious. For this reason, we should do all in our power to strengthen our togetherness, and to create a strong immunity against isolationism. For our own good. And for our common future.