

# 2022 年中国和全球 油漆及涂料行业 China and the Global Paint and Coatings Industry in 2022



本文从通货膨胀、材料短缺、原油价格高企、运输问题、劳动力短缺和现金流问题回顾了 2022 年中国和全球油漆和涂料行业。

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好消息是，在 2021 年，全球油漆和涂料行业从 2020 年的销量下滑中复苏，到 2022 年，虽然销量增长似乎与 GDP 同步，但涂料产品的产值却大幅增长。这些产品的每一个组成部分都受到原油高成本的负面影响；全球供应链问题；材料短缺和分配；挥之不去的不可抗力声明；物流问题；劳动力短缺；以及裂化能力降低。2022 年，我们看到中国经济失去动力——国际货币基金组织将中国 GDP 预测下调至 3.3%<sup>[1]</sup>，为 40 年来的最低水平——再加上俄罗斯入侵乌克兰和原油形势，全球商界正在处于严重动荡的状态。

2022 年年中，全球耐用品制造业出货量增长 11%，总制造业出货量增长 14.8%，但这种大幅增长几乎完全是价格上涨的结果，而不是产量，而产量只在调整上涨价格后为增长 1.1%<sup>[2]</sup>。

导致当前涂料行业头痛的问题都不会很快消失——2020 年初开始的「全球性下行的多米诺骨牌效应」在 2022 年仍在我们身边，多米诺骨牌将继续持续——它只是数量和持续时间的问题。然而，最糟糕的情况可能已经过去，为此我们应该心存感激。

## 全球经济概况

首先，重要的是要了解：到 2022 年，全球涂料行业仍是世界经济中成熟稳定的组成部分，涂料需求仍趋于跟随整体

This article reviews China and the global paint and coatings industry in 2022 in respect to inflation, material shortages, high crude oil prices, transportation problems, labour shortages and cash flow issues.

The good news is that, during 2021, the global paint and coatings industry recovered from a dip in volume in 2020, and that in 2022, while the volume growth appears to be tracking GDP, the growth in value of coatings products has increased dramatically. Every component of these products has been negatively affected by the high cost of crude oil; global supply chain issues; material shortages and allocations; lingering force majeure declarations; logistics problems; labour shortages; and decreasing cracking capacity. In 2022, we are seeing the Chinese economy losing momentum—the IMF cut its forecast for China's GDP to 3.3%<sup>[1]</sup>, the slowest pace in four decades—and coupled with the Russian invasion of Ukraine and the crude oil situation, the global business community is in a state of serious unrest.

The global value of durable goods manufacturing shipments is up 11% in mid-2022e, and total manufacturing shipments' value is up 14.8%, but this dramatic increase is almost entirely the result of price increases, not volume of goods, which was only up 1.1%, after adjusting for price<sup>[2]</sup>.

None of the problems that have led to the current coatings industry headaches are going away anytime soon—the "Global Falling Domino Effect" that was initiated in early 2020 is still with us in 2022, and the dominoes are going to keep falling—it is just a matter of how many, and for how

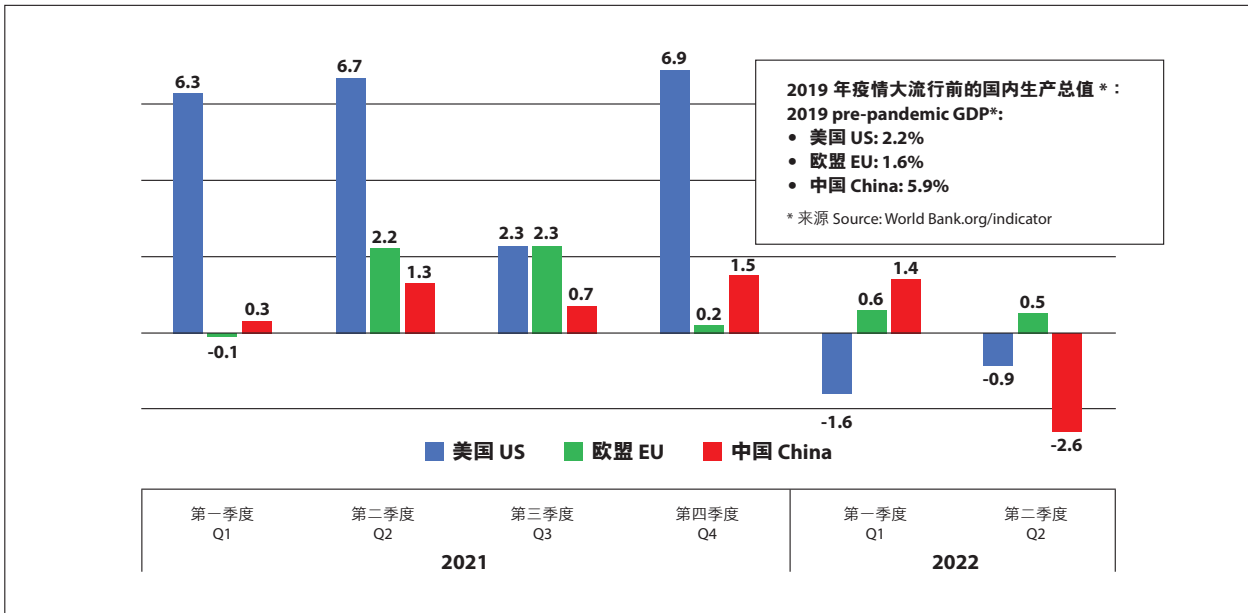


图1：GDP·比上一季度变化百分比 [资料来源：ChemQuest 集团公司；美国经济分析局；欧盟统计局；中国国家统计局；《经济学贸易》]  
 Figure 1: GDP, % change from previous quarter [Source: The ChemQuest Group, Inc.; U.S. Bureau of Economic Analysis; Eurostat; National Bureau of Statistics of China; Trading Economics]

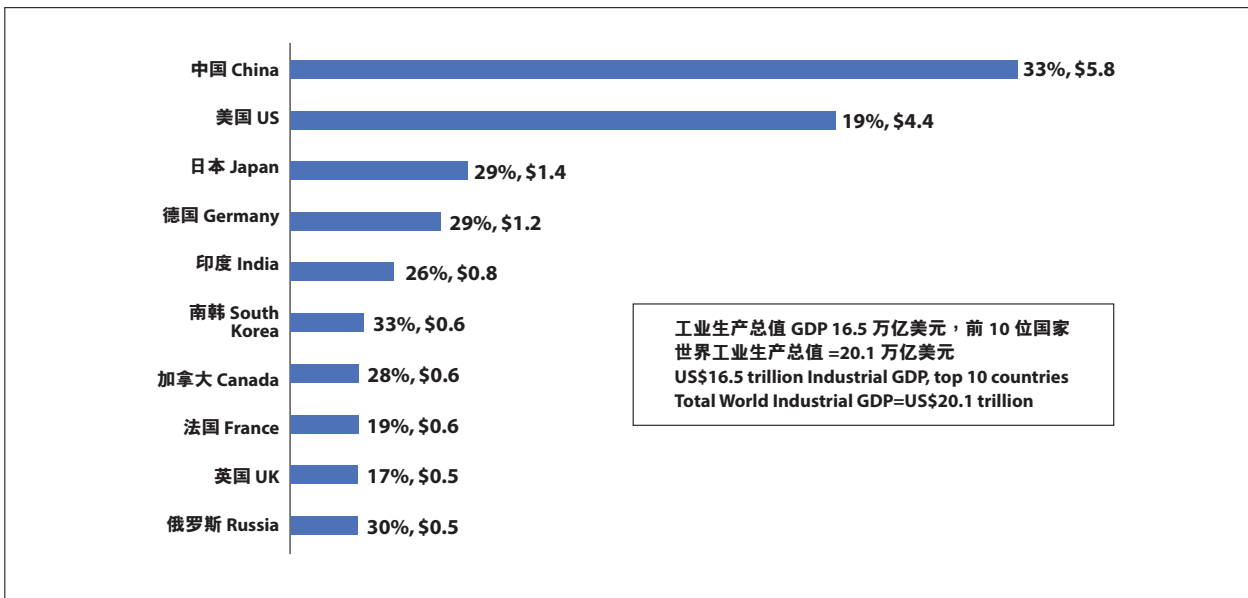


图2：前十大经济体工业GDP和工业成分占GDP总量的百分比，(美元·万亿) [资料来源：ChemQuest集团公司；世界概况 (美国中央情报局)；世界银行]  
 Figure 2: Industrial GDP and Industrial component percentage of total GDP, top ten economies (US\$, trillions) [Source: The ChemQuest Group, Inc.; The World Factbook (U.S. Central Intelligence Agency); The World Bank]

经济活动。人均国民生产总值 (GDP) 与人均涂料消费量之间存在相关性，因此随着第二和第三世界经济体的经济状况改善，它们对涂料和涂料的需求将会增加。涂料需求也继续表现出对工业生产和建筑支出的依赖，除非发生重大经济事件，否则两者的中长期前景都是乐观的。

由于全球涂料趋势往往跟随 GDP，因此首先重要的是要考虑总 GDP，然后关注涂料适合整 GDP 的部分以及它们对

long. The worst, however, is likely behind us, and for that we should be grateful.

### Global economic overview

At the outset, it is important to understand that the global coatings industry in 2022 still remains a mature and stable component of the world economy, and coatings demand

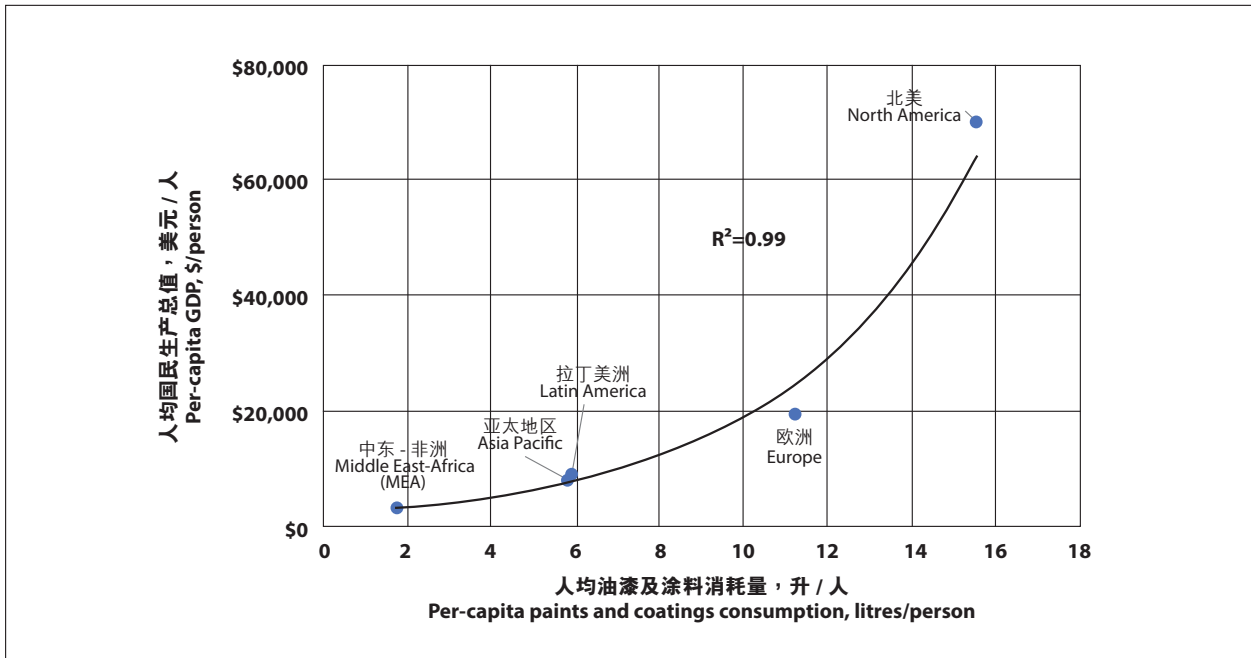


图3：2021年人均GDP与人均涂料消费量（美元/人）[资料来源：ChemQuest集团公司；Worldometre]  
Figure 3: 2021 Per-capita GDP vs. per-capita coatings consumption (US\$/person) [Source: The ChemQuest Group, Inc.; Worldometre]

GDP 的影响程度。图 1 显示了自 2021 年初以来三个关键地区（美国、欧盟和中国）的 GDP 变化（与上一季度相比）。

中国的工业产值和贸易政策历来是全球增长的重要推动力，GDP 增长率在 8 至 10% 左右。尽管仍是主要驱动力，但由于多种因素，包括新冠疫情引起的封锁，中国经济已显著降温，这对涂料中使用的基本化学品的生产造成了影响。

尽管 GDP 为商业趋势提供了重要的宏观视角，但只有 20% 至 40% 的 GDP（采矿、制造业、能源生产和建筑）（取决于地区）符合「工业 GDP」的定义。不生产物质商品的政府、通信、交通、金融和其它经济活动在所有国家中占 GDP 的最



still tends to follow overall economic activity. A correlation exists between Gross Domestic Product (GDP) per capita and coatings consumption per capita, so as the economic conditions in second- and third-world economies improve, their demand for paint and coatings will increase. Coatings demand also continues to exhibit dependence upon industrial production and construction spending, and the mid-to-long-term outlook is positive for both, barring a major intervening economic event.

Since global coatings trends tend to follow GDP, it is first important to consider total GDP, then focus on segments where coatings fit into the overall GDP and to what degree they influence it. Figure 1 shows the change in GDP (from the previous quarter) in three key regions—U.S., EU, and China—since the beginning of 2021.

China's industrial output and trade policies have historically been important drivers of global growth, with GDP growth rates around 8%–10%. While still a major driver, China's economy has cooled significantly due to a variety of factors, including the COVID-induced lockdowns, which took a toll on the production of basic chemicals used in coatings.

Although GDP provides an important macro view of business trends, only 20–40% of GDP (mining, manufacturing, energy production, and construction) depending on the region, fits the definition of "Industrial GDP." Government, communication, transportation, finance, and other economic activities that do not produce material goods represent the largest component of GDP in all countries and are classified as "Services." Since coatings fall primarily into the manufacturing and construction segments, however, the overall GDP values that are on the news (i.e., Services + Industrial + Agriculture), are insufficient to present the most accurate picture of the coatings industry, which is why we look at Industrial GDP for this particular analysis.

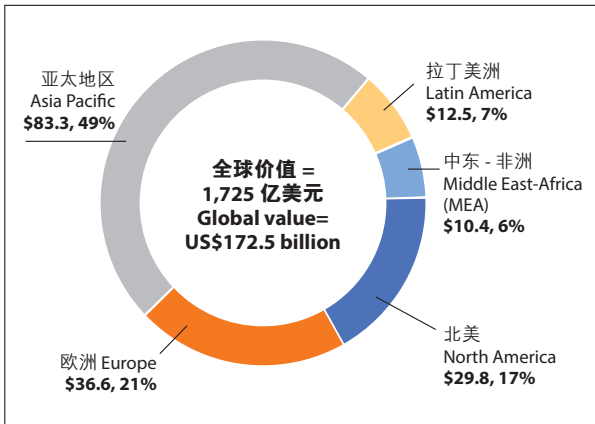


图4：2021年按地区列的全球油漆和涂料市场产值（美元，十亿）和占比 [资料来源: ChemQuest 集团公司]  
 Figure 4: Global paint and coatings market value by region, 2021 (US\$, billions) [Source: The ChemQuest Group, Inc.]

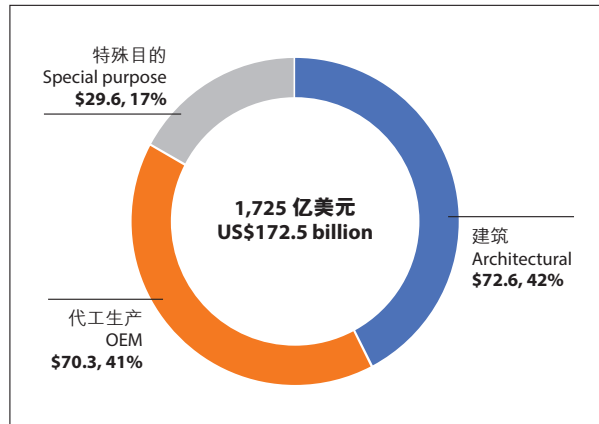


图5：2021年按细分市场划分的全球油漆和涂料市场产值（美元，十亿） [资料来源: ChemQuest 集团公司]  
 Figure 5: Global paint and coatings market value by segment, 2021 (US\$, billions) [Source: The ChemQuest Group, Inc.]

大组成部分，被归类为「服务」。然而，由于涂料主要属于制造和建筑领域，新闻中的整体 GDP 值（即服务业+工业+农业）不足以呈现涂料行业的最准确情况，这就是我们在工业 GDP 中进行此特定分析关注的原因。

在讨论工业 GDP 部分时，看一看世界主要经济体的工业 GDP 规模是明智的。图 2 显示了基于 2021 年 GDP 资料的 GDP 排名前 10 位的国家、它们各自的工业 GDP 成分百分比以及工业成分的价值。

然而，总 GDP 确实有它的位置，尤其是考虑到人口时。图 3 考虑了 2021 年的人均 GDP 和人均涂料消费量，同时考虑了区域经济及其人口。

In discussing Industrial GDP segment, it is sensible to look at the size of Industrial GDP for the world's leading economies. Figure 2 shows the top 10 countries by GDP, their respective Industrial GDP component percentage, and the value of the industrial component, based on 2021 GDP data.

Total GDP, however, does have its place, especially when taking population into consideration. Figure 3 considers per-capita GDP and per-capita coating consumption for 2021, to factor in both regional economies and their populations.

The importance of Figure 3 to the coatings industry should not be underestimated. With an R2 value of 0.99, it is a critical tool for long-term prediction of both growth

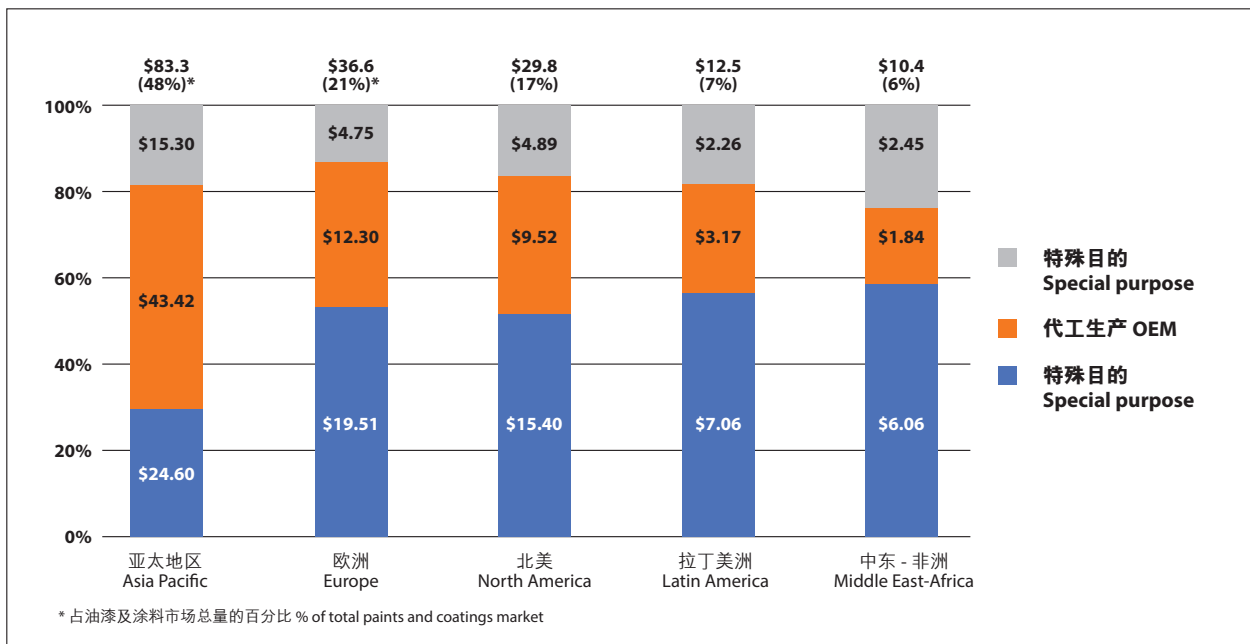


图6：2021年按地区列的全球涂料市场产值（美元，十亿） [资料来源: ChemQuest 集团公司]  
 Figure 6: Global coatings market value, by region, 2021 (US\$, billions) [Source: The ChemQuest Group, Inc.]

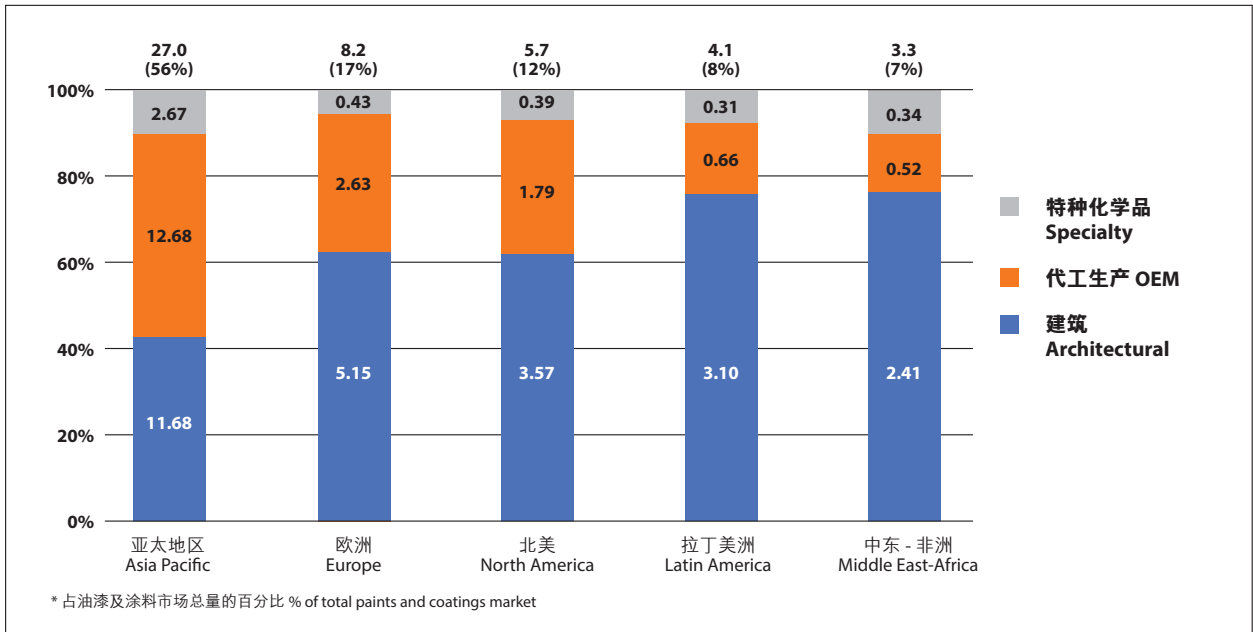


图7: 按地区列的全球涂料市场产量 (升, 十亿) [资料来源: ChemQuest 集团公司]  
 Figure 7: Global coatings market volume, by region (litres, billions) [Source: The ChemQuest Group, Inc.]

不应低估图3对涂料行业的重要性。它的R2值为0.99，是长期预测全球涂料行业增长率和绝对值的关键工具。例如，随着亚太地区经济的发展，我们预计其人均涂料消费量将上升。

rates and absolute value of the global coatings industry. For example, as the Asia-Pacific region's economy develops, we expect its per-capita consumption of coatings to move up the curve.

### 全球油漆和涂料市场

### Global paint and coatings market

全球涂料市场分为五个区域。图4显示了每个区域的产值和占比。

The global coatings market is divided into five regions. Figure 4 shows the value in each.

图5代表了价值1,725亿美元的全球涂料市场，分为三个产值部分：建筑、OEM（工厂应用）和特殊用途（一般现场应用）。

Figure 5 represents the \$172.5 billion global coatings market, divided into three value segments: Architectural, OEM (factory-applied), and Special Purpose (generally field-applied).

图6和图7分别显示了全球涂料市场区域的产值和产量。亚太地区占全球涂料市场产值和产量分别为48%和

Figure 6 and Figure 7, respectively, show the value and volume of the global regions of the coatings market by value and volume.

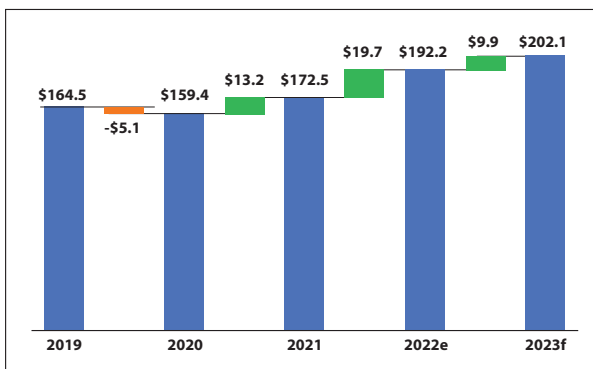


图8: 全球所有领域涂料市场产值, 2019-2023f (美元, 十亿) [资料来源: ChemQuest 集团公司]  
 Figure 8: Global coatings market value, all segments, 2019-2023f (US\$, billions) [Source: The ChemQuest Group, Inc.]

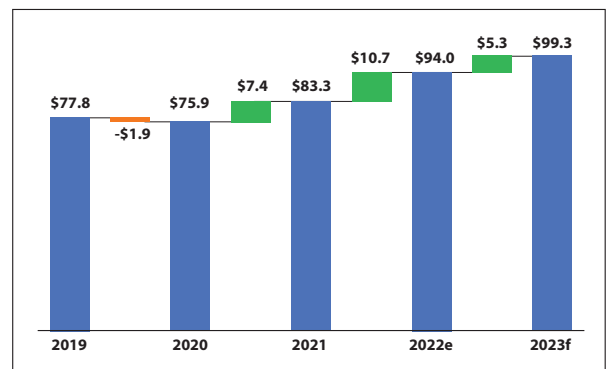


图9: 亚太地区所有领域涂料市场产值, 2019-2023f (美元, 十亿) [资料来源: ChemQuest集团公司]  
 Figure 9: Asia-Pacific coatings market value, all segments, 2019-2023f (US\$, billions) [Source: The ChemQuest Group, Inc.]

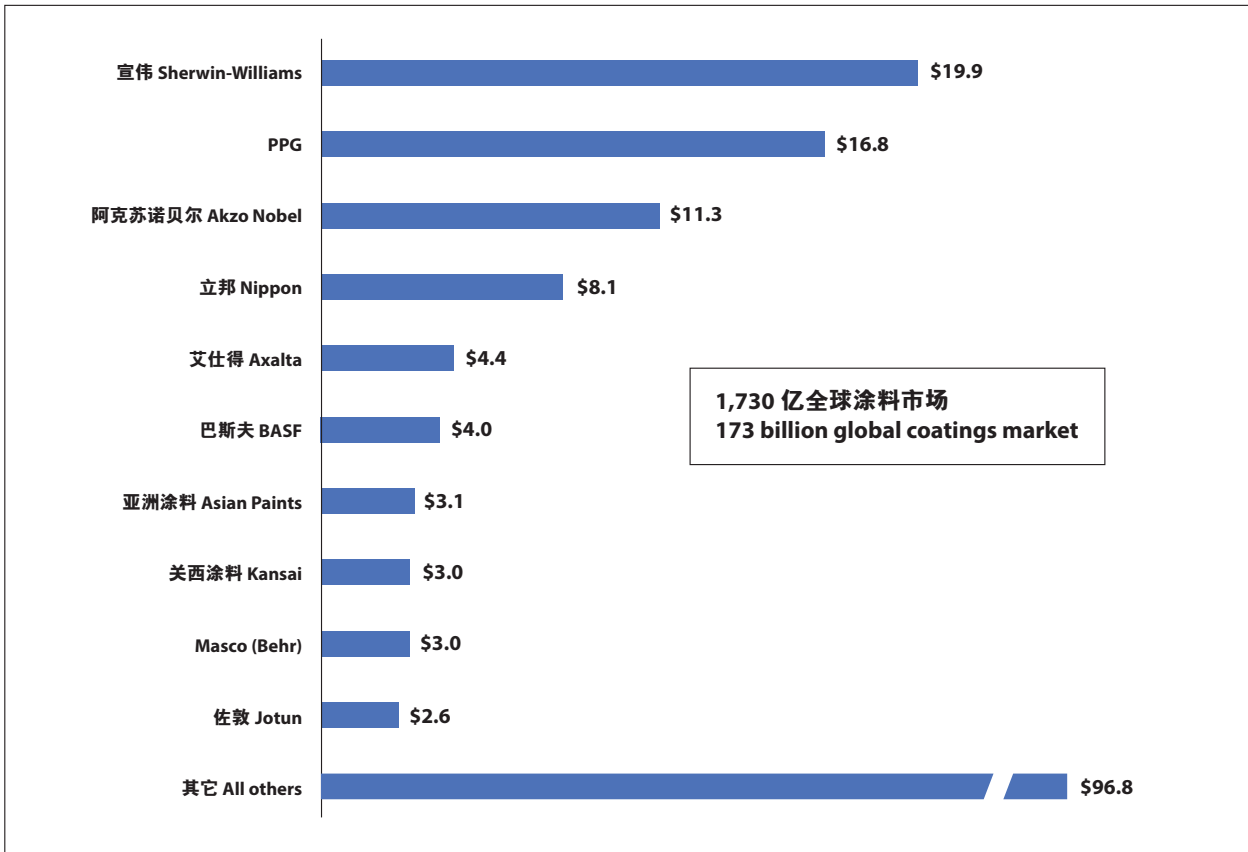


图10：按产值划分的全球十大涂料生产商（美元，十亿，2021年）[资料来源：ChemQuest 集团公司]  
 Figure 10: Top ten global coatings producers, by value (US\$, billions, 2021) [Source: The ChemQuest Group, Inc.]

56%，其中中国占亚太地区约60%。亚太地区的建筑细分市场明显小于其它地区，而OEM细分市场则大得多。

2019年底，涂料市场前景广阔。然后新冠疫情来袭，2020年和2021年的前景发生了很大变化。图8和图9描述了全球以及亚太地区的涂料市场，每个组图中的第一个条形代表2019年，然后是2020年上半年的下降，以及2020

Asia-Pacific represents 48% of the value and 56% of the volume of the global coatings market, with China representing ~60% of the Asia-Pacific segment. The Architectural segment in Asia-Pacific is notably smaller than other regions, while the OEM segment is significantly larger.

At the end of 2019, the outlook for a bright future in the coatings market was positive and widespread. Then COVID struck, and the outlook for 2020 and 2021 changed considerably. The following Figure 8 and Figure 9 describe the coatings markets globally, then look individually at Asia-Pacific. The first bar in each waterfall graph represents 2019, followed by the decline in the first half of 2020, and the partial recovery in the second half of 2020—leading to the 2021 results, an estimate for 2022, and finally a 2023 forecast.

From a global perspective, we can see that indicators are on the upswing, although it is important to keep in mind that values are still significantly outpacing volumes, principally due to supply chain issues and rising inflation.

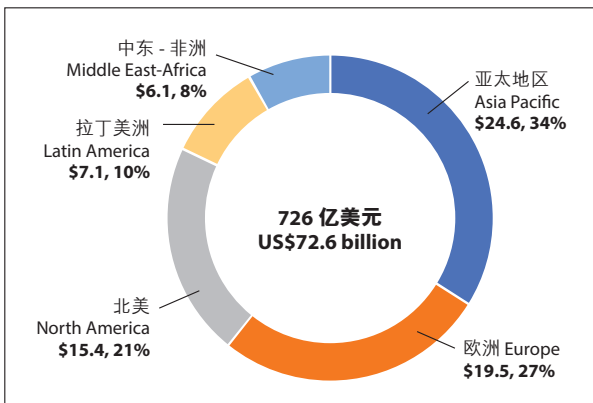


图11：2021年按地区列的全球建筑涂料产值（美元，十亿）[资料来源：ChemQuest 集团公司]  
 Figure 11: Global architectural coatings value, by region, 2021 (US\$, billions) [Source: The ChemQuest Group, Inc.]

### Competitive landscape

It is no surprise that large, multi-national producers dominate the coatings industry. The industry has become increasingly consolidated over the past two decades, with the top ten suppliers in 2021 representing 44% of the total market (Figure 17).

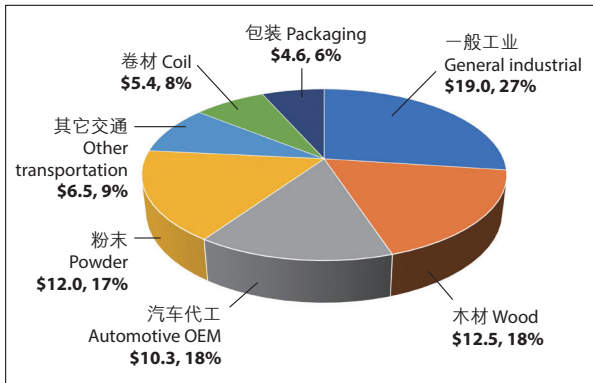


图12：2021年按细分市场划分的全球工业OEM产值（美元，十亿）[资料来源：ChemQuest 集团公司]  
Figure 12: Global industrial OEM value, by segment, 2021 (US\$, billions) [Source: The ChemQuest Group, Inc.]

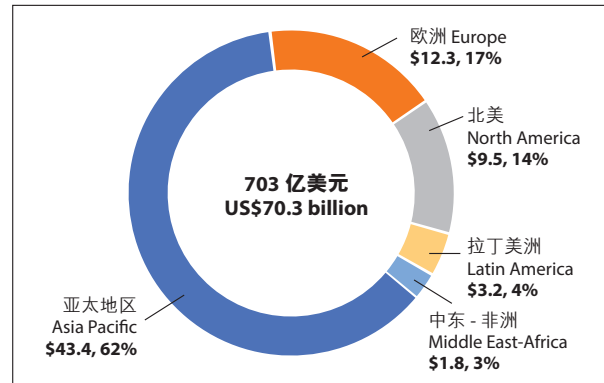


图13：2021年按地区列的全球工业OEM产值（美元，十亿）[资料来源：ChemQuest 集团公司]  
Figure 13: Global industrial OEM, value by region, 2021 (US\$, billions) [Source: The ChemQuest Group, Inc.]

年下半年的部分复苏——导致2021年的结果、2022年的估计以及2023年的预测。

从全球角度来看，我们可以看到指标正在上升，尽管重要的是要记住，产值仍然大大超过产量，主要是由于供应链问题和通胀上升。

## 竞争格局

大型跨国生产商主导涂料行业不足为奇。在过去的二十年里，该行业变得越来越整合，到2021年排名前十的供应商占整个市场的44%（图17）。

## 建筑（装饰）涂料

建筑涂料销售额与住房/建筑市场的健康状况高度相关——与2020年相比，2021年的产值增长了5.7%，但销量仅增长了1.7%。我们预计2022年产值和产量将分别增长11.1%和1.1%。

建筑涂料市场的区域份额如图11所示。亚太地区在整个油漆和涂料市场中的份额最大（49%，高于2020年的47%），但仅占建筑市场的34%，其中与2020年相比没有变化。

## 工业 OEM 涂料

工业 OEM 涂料部分由七个子部分组成，包括工厂应用环境中使用的涂料（图12）。

图13显示了这一广泛多样的市场空间的全球分布。

由于工业 OEM 是工业生产的一项功能，因此制造业产出和汽车制造都是该细分市场的主要驱动力，该细分市场受到与新冠疫情相关的封锁的严重损害。2020年2月，中国轻型汽车产量触底，其次是欧洲和美国，4月份基本不生产。然而，到了6月，情况开始好转，但这些地区的产量都没有恢复到疫情之前的水平，而且在全球微晶片短缺问题得到解决并且经济衰退发生并结束之前，不太可能恢复到新冠病毒爆发前的水平，或者不太可能对经济衰退的担忧告一段落。

## Architectural (decorative) paints

Architectural coatings sales are highly correlated with the health of the housing/construction market—and grew 5.7% in value in 2021, compared to 2020, but volume only increased by 1.7%. We anticipate increases in value and volume of 11.1% and 1.1%, respectively, in 2022e.

The regional shares of the Architectural Coatings market are illustrated in Figure 11. Asia-Pacific has the largest share of the total paint and coatings market (49%, up from 47% in 2020), but just 34% of the Architectural market, which represents no change from 2020.

## Industrial OEM coatings

Comprised of seven sub-segments, the Industrial OEM coatings segment includes coatings used in factory-applied settings (Figure 12).

The global distribution of this broad and diverse market space is shown in Figure 13.

Because Industrial OEM is a function of industrial production, both manufacturing output and automotive builds are major drivers for this sub-segment, which was seriously harmed by the COVID-related lockdowns. Light-vehicle production bottomed-out in China in February 2020, followed by Europe and the U.S., where production was essentially non-existent in April. By June, however, things began to improve, but production has not returned to pre-COVID levels in any of these regions, and it is unlikely to do so until the global shortage of microchips has been addressed and either a recession occurs and ends, or the fears of a recession come to an end.

## Special purpose coatings

Automotive refinish coatings and industrial maintenance/protective coatings are the major sub-segments in the Special Purpose Coatings category. As a result, this segment tends to track with industrial construction, infrastructure refurbishment, crude oil prices, and shipping (industrial maintenance/protective coatings), as well as with accident rates, automotive sales, size of the car parc (total number of

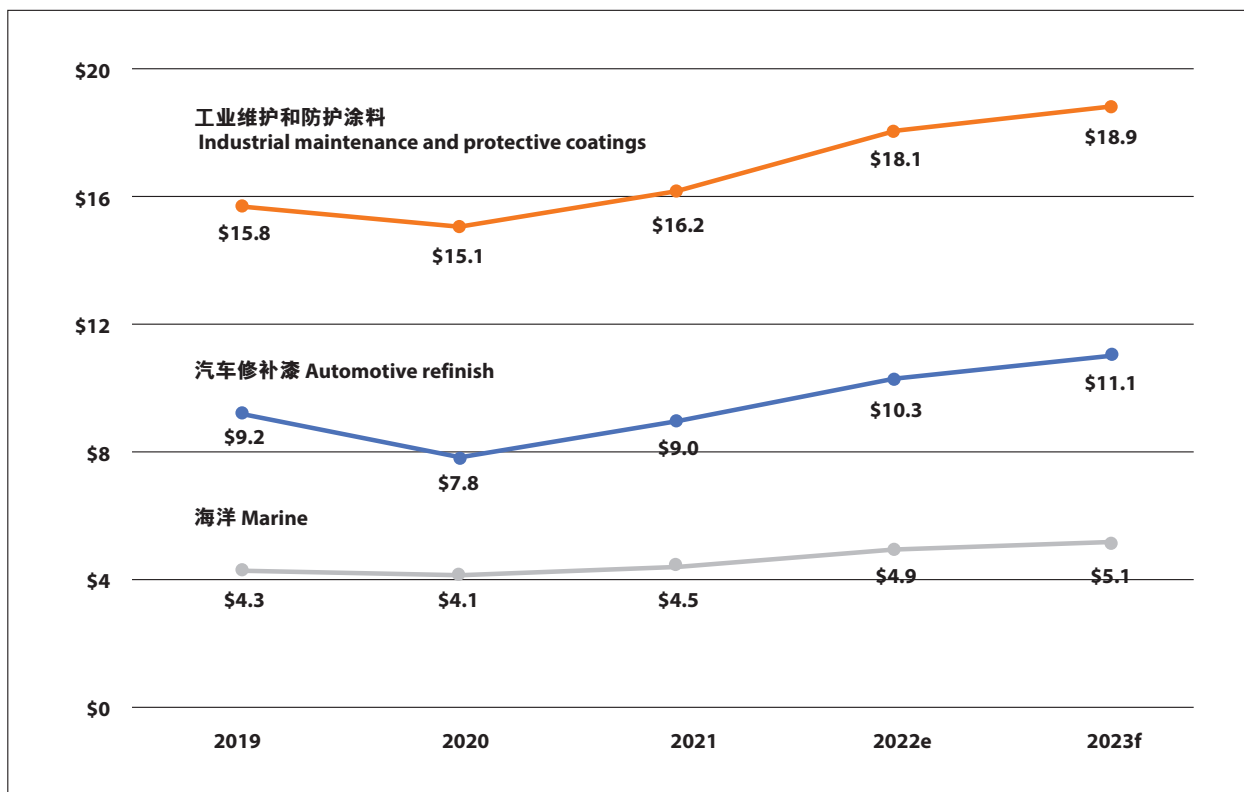


图14：2021年全球按细分市场划分的特殊用途涂料产值（美元，十亿）[资料来源：ChemQuest 集团公司]  
Figure 14: Special purpose coatings, value by sub-segment, 2021 (US\$, billions) [Source: The ChemQuest Group, Inc.]

## 特殊用途涂料

汽车修补漆涂料和工业维护/保护涂料是特殊用途涂料类别中的主要子部分。因此，该细分市场倾向于跟踪工业建设、基础设施翻新、原油价格和航运（工业维护/保护涂料），以及事故率、汽车销售、车辆注册总数（在任何给定时间使用的车辆注册总数）和总行驶里程（汽车修补漆）。

图 14 显示了特种涂料三大细分市场的全球产值，图 15 显示了全球各地区的产值。

## 小结

2020 年初，全球新冠疫情的出现引发了一长串衰退的多米诺骨牌。这些多米诺骨牌中的大多数现在已经倒下，但还有一些尚未倒下。由于需求旺盛、供应受限、通货膨胀上升、劳动力短缺和现金流问题等因素的综合影响，截至 8 月，世界上几乎没有涂料生产商能够满足其所有当前订单。新冠疫情引发的供应链问题正在慢慢缓解，但我们还没有走出困境。

2021 年，随着世界重新开始工作，几十年来创建复杂的供应链突然——而且戏剧性地——证明了复杂性的负面影响。重要的进口货物没有到达全球港口，当它们到达时，没有足够的多式联运能力将这些材料从港口运送到内陆制造设施。需求迅速超过供应，导致航运价格上涨，从而迫使原材料价格快速上涨。涂料制造商别无选择，只能将涨价转嫁给客户。这种情况仍然存在。随着我们进入 2022 年，

registered vehicles in use at any given time), and total miles driven (automotive refinish coatings).

Figure 14 shows the global value of the three largest sub-segments of Special Purpose Coatings, and Figure 15 shows value by global region.

## Summing up

In early 2020, a long row of falling dominoes was set in motion by the emergence of a global pandemic. Most of those dominoes have now fallen, but there are a few yet to fall. As of August, there are few coatings producers anywhere in the world that are able to fill all their current orders, due to a confluence of high demand, restricted supply, rising inflation, labour shortages, and cash flow issues. The supply chain issues initiated by COVID are slowly abating, but we aren't out of the woods yet.





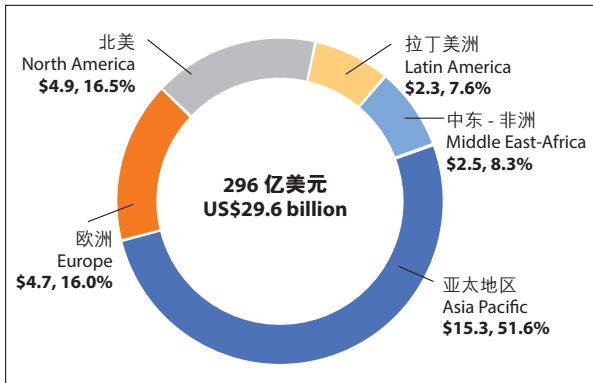


图15: 2021年全球按地区列的特殊用途涂料细分市场产值(美元,十亿) [资料来源: ChemQuest 集团公司]  
Figure 15: Global special purpose coatings segment, value by region, 2021 (US\$, billions) [Source: The ChemQuest Group, Inc.]

它每个月都在改善,但还将持续到2023年,肯定会持续到2023年第一季度,很可能会持续到2023年第二季度。

最终,我们将回顾这一时期,并认识到「新冠时代」暴露出全球供应链缺乏基本弹性,迫使制造业内的个别政府和企业为整体流程带来更大的弹性。如果我们从过去两年中没有学到任何其它东西,那应该是拥有强大、主动、敏捷的业务战略的价值,它最终将赢家与输家分开。就是这么简单。

在外部合作伙伴(战略业务顾问、技术顾问、独立实验室、大学或所有四方面)的帮助下制定战略和开发新产品的涂料生产商将获得丰厚的回报,因为我们生活和工作在一个内部资产不断变化的世界中,面临越来越大的挑战并且容易不知所措,外部专家能够带来特种化学品多个领域的广泛知识,以推动原材料供应商和涂料生产商的技术进步和交叉融合。

In 2021, as the world was clawing itself back to work, decades of creating complex supply chains suddenly—and dramatically—demonstrated the downside of complexity. Critical imports were not reaching global ports, and when they did, there was insufficient intermodal capacity to move those materials from ports to inland manufacturing facilities. Demand quickly outpaced supply, causing shipping prices to rise, which forced raw material prices to increase rapidly. Coatings manufacturers had no choice but to pass on the price increases to their customers. This condition is still with us. It is improving each month as we move through 2022, but it will continue into 2023, certainly through Q1 and very likely through Q2.

Ultimately, we will look back on this period and recognise that the "COVID Era" exposed that global supply chains lack fundamental resilience, forcing individual governments and businesses within the manufacturing sector to bring greater resilience to the overall process. If we have learned nothing else from the past two years, it should be the value of having a robust, proactive, agile business strategy, which will ultimately separate the winners from the losers. It is that simple.

Coatings producers that create strategies and new products with the help of outside partners—strategic business advisers, technology consultants, independent laboratories, universities, or all four—will be greatly rewarded, because we live and work in a changing world where in-house assets are increasingly challenged and easily overwhelmed, and external experts are able to bring extensive knowledge of multiple fields in specialty chemicals to drive advancement and cross-fertilisation of technology at both raw material suppliers and coatings producers. ■

## 参考文献 References

- [1] <https://www.imf.org/en/Countries/CHN>
- [2] American Coatings Association, Industry Pulse: Industrial Coatings, 2022 Q2, 5 July, 2022.

