Exporting Complex Products:

SAUDI ARABIA'S NEXT INDUSTRIAL UPGRADE

Strategic Gears
Management Consultancy

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The Key Takeaways

Saudi Arabia's manufacturing base is expanding in both scale and sophistication, with industrial activity estimated to have reached record levels in 2025. While complex, knowledge-intensive products remain a small share of Saudi's export basket, its growth and potential economic returns remain undocumented. This report maps the evolution of Saudi Arabia's complex exports and identifies areas where existing human and industrial capabilities could support expansion into more complex manufacturing segments with high social and economic outcomes. Below are the key takeaways:

01

An expanding complex export base: Between 2020 and 2024, Saudi Arabia exported 142 complex products, averaging $3.3 billion annually (7% of non-oil exports). Both the number of products and their export destinations increased by 23 and 10 respectively over the period, signaling an ongoing expansion of the complex export basket.

02

Concentration in a few sectors: Three sectors, namely plastics, organic chemicals, and nuclear reactors/boilers account for roughly 90% of complex export value. Only eight complex products record a revealed comparative advantage, but these account for nearly three-quarters of total complex exports.

03

Measured unrealized potential: The unrealized export potential of the current complex basket is estimated at $1.85 billion, with 10 products representing 70% of that potential. Related-product mapping identifies 29 complex products across ten sectors that are adjacent to Saudi Arabia's current capabilities and could push the untapped potential to $2 billion in trade returns.

04

The stakes extend beyond revenue: Complex manufacturing is associated internationally with higher value-added and productivity spillovers. Comparative evidence suggests that each industrial job can support two additional jobs and that firms integrated into complex value chains tend to record sustained productivity gains.

05

The strategic direction: The breadth of Saudi's complex export base will depend on sustained investment in innovation, skills development, and quality infrastructure. Aligning industrial policy with the mapped areas of adjacent capabilities could help translate existing strengths into more diverse and resilient manufacturing output, creating domestic jobs through value-added activities and $2 billion in trade returns.

Introduction

Context

Saudi Arabia has marked a shift from aspirational diversification 10 years ago to measurable upgrades today. The economy has surpassed $1 trillion, and government revenues and private-sector indicators set records independently of oil cycles. In 2025, non-oil government revenues reached $135 billion, while by Q3 non-oil business activity rose about 4% year-on-year, symptomatic of a broadening private sector base.

Building on this momentum, the industrial base is expanding in both scale and sophistication. In 2025, the Kingdom counted an estimated 12,840 licensed factories, up from roughly 11,500 in 2023, with the National Industrial Strategy charting a path to 36,000 by 2035. Since the Future Factories Program launched in 2022, 4,000 factories are expected to migrate to Industry 4.0 and push manufacturing into more complex, knowledge-intensive products.

Taken together, these shifts are expected to lift manufacturing GDP to about SAR 895 billion by 2030—already at SAR 723 billion in 2024 and around an estimated SAR 750-800 billion in 2025. They also strengthen Saudi Arabia's autonomy: defense localization rose from 4% in 2018 to nearly 20% by end-2023, spanning UAVs, air-defense missile components, and interceptor boats that were previously exclusively imported.

One factor that has supported this transformation is the exemption of industrial establishments from expatriate labor levies. Introduced in 2019, the waiver saved more than 8,000 manufacturing companies an estimated SAR 5 billion in cumulative labor costs, freeing up capital to invest in production capacity, technology, and workforce development. However, this advantage is temporary: firms have entered a new phase of cost restructuring as of December 2025, as monthly fees on expatriate workers return to SAR 800 per worker, driving companies to increasingly rely on productivity gains and innovation-driven efficiency.

Aim and Scope

This report tracks the evolution of Saudi Arabia's basket of complex exports to identify its structure, measure its potential, and propose a pathway to expand it. The report finds that the Kingdom's manufacturing base is producing more complex goods with time, with an untapped potential of at least $2 billion in trade returns. While most exports remain at the lower end of the complexity spectrum, this creates a foundation for moving into higher-complexity products with welfare effects that extend beyond revenues: the sector creates more jobs than any other, fosters productivity across industries, and strengthens the resilience of the manufacturing sector. Empirically, economies that produce and export sophisticated, knowledge-intensive goods tend to grow faster and more sustainably.

The report is organized into five sections. The first describes the methodology and analytical framework, including definitions and data limitations. The second assesses the composition and maturity of Saudi's complex exports over time and measures its untapped trade potential. The third delineates related products that Saudi Arabia can but does not yet export and estimates their created market openings. And finally, the last section presents strategies to expand and sustain the complex export base, in value and diversity.

Framework and methodology

Methodology

The exports data in this report is at the HS4 classification level and was collected from UN Comtrade for the years 2020 through 2024 and refined through the following steps:

Re-exports were excluded to focus solely on domestically produced exports.

Scrap products were excluded, as they represent by-products of used goods rather than active manufacturing output.

HS code “9999” was excluded because it aggregates unspecified products and contained anomalous export value in 2023.

Oil-related products were removed to focus on the non-oil export base, allowing the analysis to capture industrial and technological capacity away from hydrocarbons.

A product was considered “exported” if its yearly average export value exceeded $10,000.

The resulting exports were then categorized into manufactured and non-manufactured products. Manufactured products are those requiring machine processing or industrial transformation, while non-manufactured products are final goods intended for direct consumption with minimal or no machine processing.

To measure the profile of the Kingdom's export complexity, the analysis deployed six key indices:

01 Product Complexity Index (PCI)

- Collected from the Atlas of Economic Complexity, the index measures the sophistication of a product, i.e. how much knowledge, technology, and capability are required to produce it.
- The index ranges from -3.5 to 3.5, with products scoring above 1 considered complex.

02 Revealed Comparative Advantage (RCA)

- Measures whether Saudi Arabia exports a product relative to its total exports more than the world average. This index is a proxy for "export competitiveness".
- The Kingdom would have a comparative advantage in a product when its RCA ≥ 1.

03 Ubiquity Index

- Measures how common or rare a product is globally.
- It counts the number of countries that export a given product with RCA ≥ 1.
- Products with ubiquity index < 10 are considered rare.

04 Economic Complexity Index (ECI)

- Captures the overall capability of the Kingdom to produce and export complex products. It reflects the diversity of exports and sophistication of knowledge and technology.
- The index ranges from -3.5 to 3.5. The index ranges from −3.5 to 3.5, with values above 0 indicating larger-than-average current complex export basket.

05 Complexity Outlook Index (COI)

- Measures the Kingdom's potential to diversify into complex products that it does not yet export. It serves as a forward-looking indicator of future industrial capacity.
- The index ranges from −2.5 to 2.5, with values above 0 indicating stronger-than-average potential to diversify into more complex products.

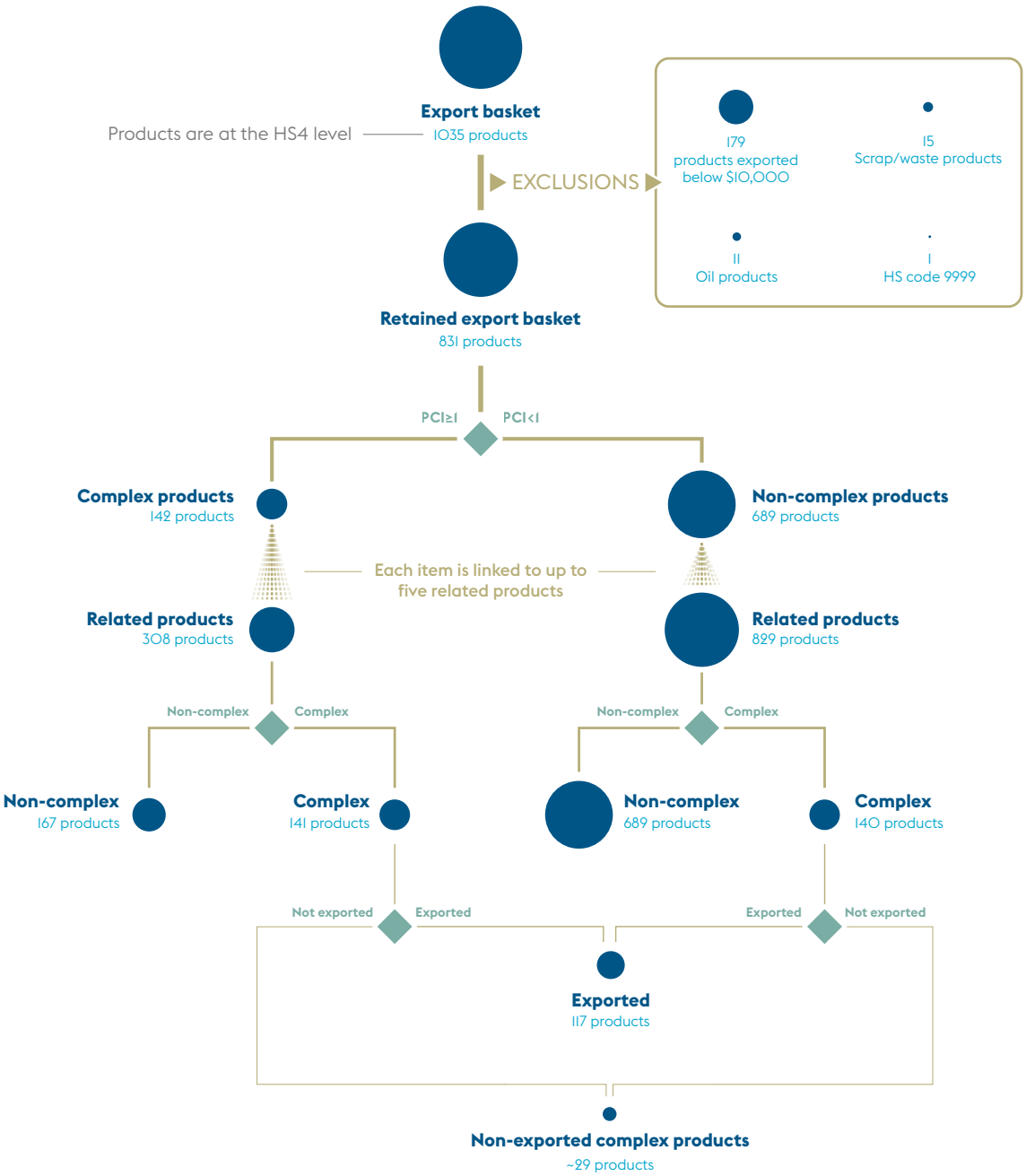
06 Relatedness Index

- Identifies how closely connected products are based on shared technological or knowledge capabilities.
- For each exported product, the top five most related products were identified to reveal complex products that the Kingdom is not currently exporting but could feasibly do, based on the Harvard Atlas of Economic Complexity.

Framework

To capture the full scope of Saudi's complexity potential, the analysis includes related complex products—those lying adjacent to Saudi Arabia's current exports. The analytical framework shows how current exports, product complexity, and relatedness converge to map Saudi Arabia's potential pathway toward a larger complex base (Figure 1).

Figure 1: Relatedness analytical framework



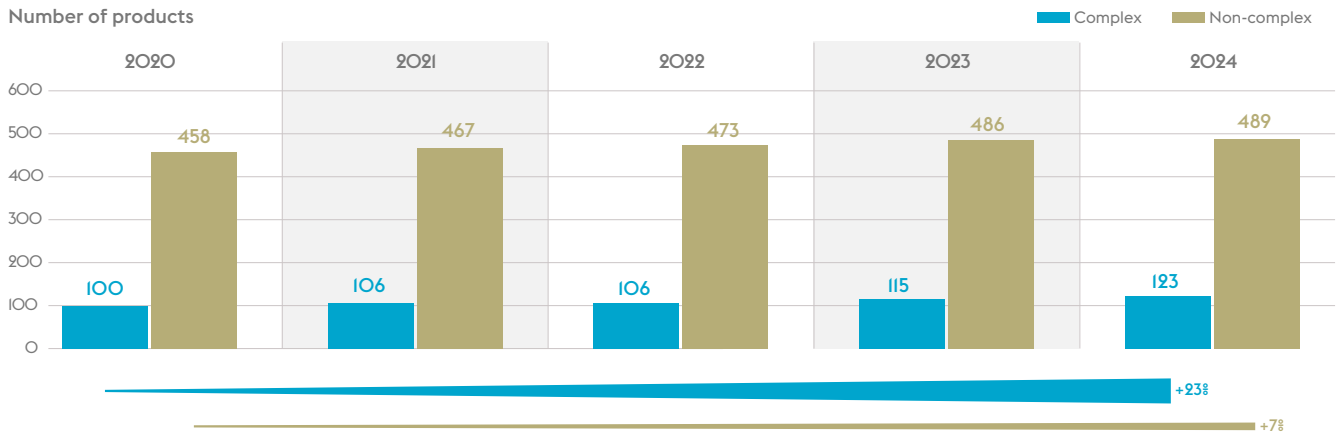
Saudi Arabia's Complex Exports

Reach and resilience of complex basket

This section assesses the evolution and resilience of Saudi Arabia's complex export base relative to peers. It tracks how the composition and destination reach of complex products have expanded under ongoing industrial policies. The analysis finds that Saudi Arabia's complex exports are growing steadily in number and market reach, with manufactured complex goods growing by almost 25% in four years. It also shows that the complex exports are concentrated in a few sectors—mainly plastics, organic chemicals, and nuclear reactors. Compared with regional peers, Saudi Arabia ranks higher in current economic complexity but faces a narrower outlook for new complex products.

Over the past five years, manufactured goods have accounted for roughly 85% of Saudi Arabia's non-oil exports each year. The range of those goods has broadened steadily, rising from 558 products in 2020 to 612 in 2024—a net gain of 54 (Figure 2). This expansion reflects a widening manufacturing base supported by ongoing industrial policies. Within this base, the number of complex, knowledge-intensive products increased from 100 in 2020 to 123 in 2024, echoing a strengthened manufacturing capacity.

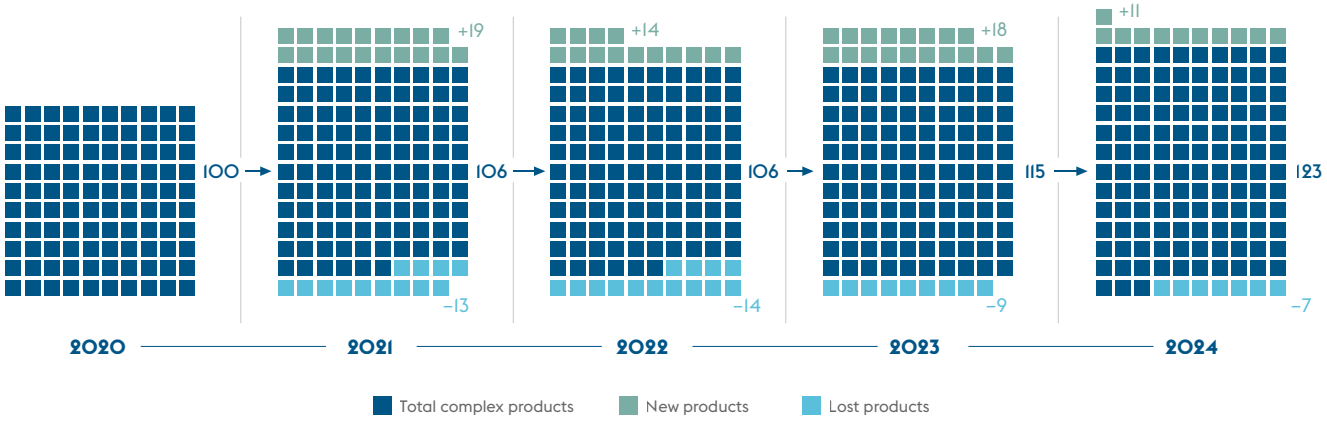
Figure 2: Variation of manufactured products since 2020



Source: UN Comtrade; Atlas of Economic Complexity; UN Statistics Division

A closer look at year-to-year changes shows that Saudi Arabia has generally added more complex exports than it has lost (Figure 3). Between 2020 and 2021, 19 products entered the basket and 13 exited (net +6). While the following year was flat, diversification peaked in 2023, with 18 additions and 9 exits (net +9). In 2024, 11 products were added and 7 dropped (net +4). Despite annual churn, additions consistently met or exceeded losses, netting an expanding complex-export basket.

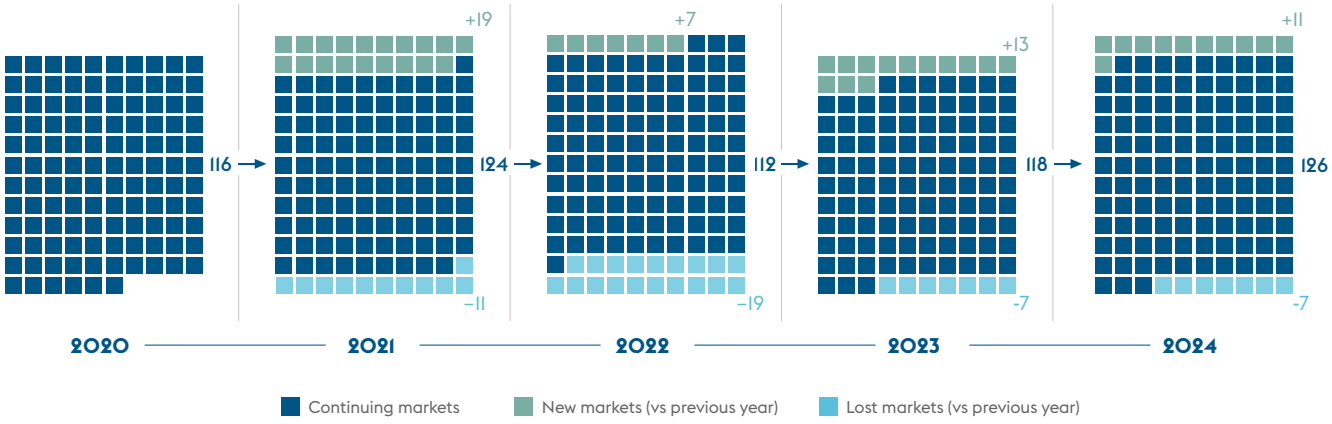
Figure 3: Count of new, lost, and total complex products exported



Source: UN Comtrade; Atlas of Economic Complexity; International Trade Center

The market reach of this expanded complex basket broadened as well, rising from 116 to 126 destinations over five years (Figure 4). The strongest expansion occurred in 2021, when 19 new markets were added despite some exits, while 2022 saw the most market exits (19). The trend recovered in 2023 and 2024, as new-market entries offset the lost ones.

Figure 4: Count of new, lost, and total markets reached



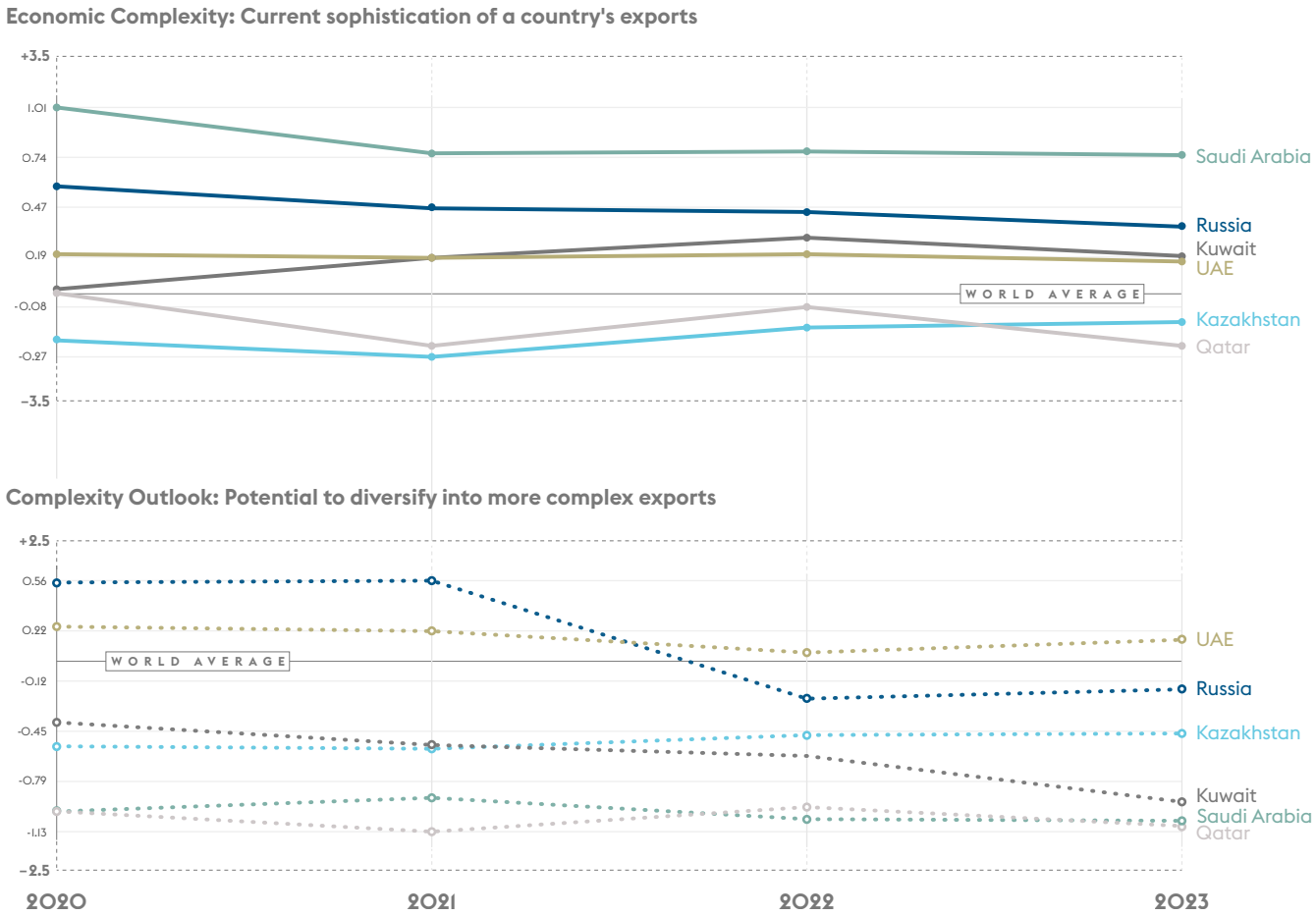
Thought Bubble: A strong core with a volatile tail

Assessing whether the complex base is expanding is only part of the story; it is equally important to evaluate its resilience over time. Between 2000 and 2024, Saudi Arabia's complex export basket comprised 142 distinct products. Within this frame, 107 products proved durability of exports for five consecutive years, of which 32 products for between 10 and 20 consecutive years and 35 product exports exceeded two decades. Importantly, durability does not imply stability, as almost one-half (57) of the 107 durable products are prone to volatility or shocks, with yearly export levels unstable relative to their long-run average performance.

To benchmark Saudi Arabia's current position and future outlook in complex exports, we deploy the Economic Complexity Index (ECI) and the Complexity Outlook Index (COI) across five benchmarks that exhibit similar hydrocarbon resource endowment and state-led diversification profiles: three GCC economies (UAE, Qatar, Kuwait) and two regional hydrocarbon exporters (Kazakhstan, Russia).

Saudi Arabia's current export basket, proxied by economic complexity, is consistently more complex than GCC and regional benchmarks, but this advantage, by design, also implies a narrower runway for further upgrades relative to countries starting from a lower baseline. Over the period, the ECI places Saudi Arabia as the consistent leader, notably above Russia which saw the intensification of trade sanctions. (Figures 5 and 6). It's outlook has consistently lagged behind the UAE and Russia, and its small lead over Kazakhstan reversed in 2022. Overall, the pattern points to a constrained opportunity for entering higher-complexity products in the short-term, a symptom of limited product relatedness and capability adjacency from the current complex basket that is tested in the next section.

Figure 5: Economic complexity and complexity outlook index between 2020 and 2023



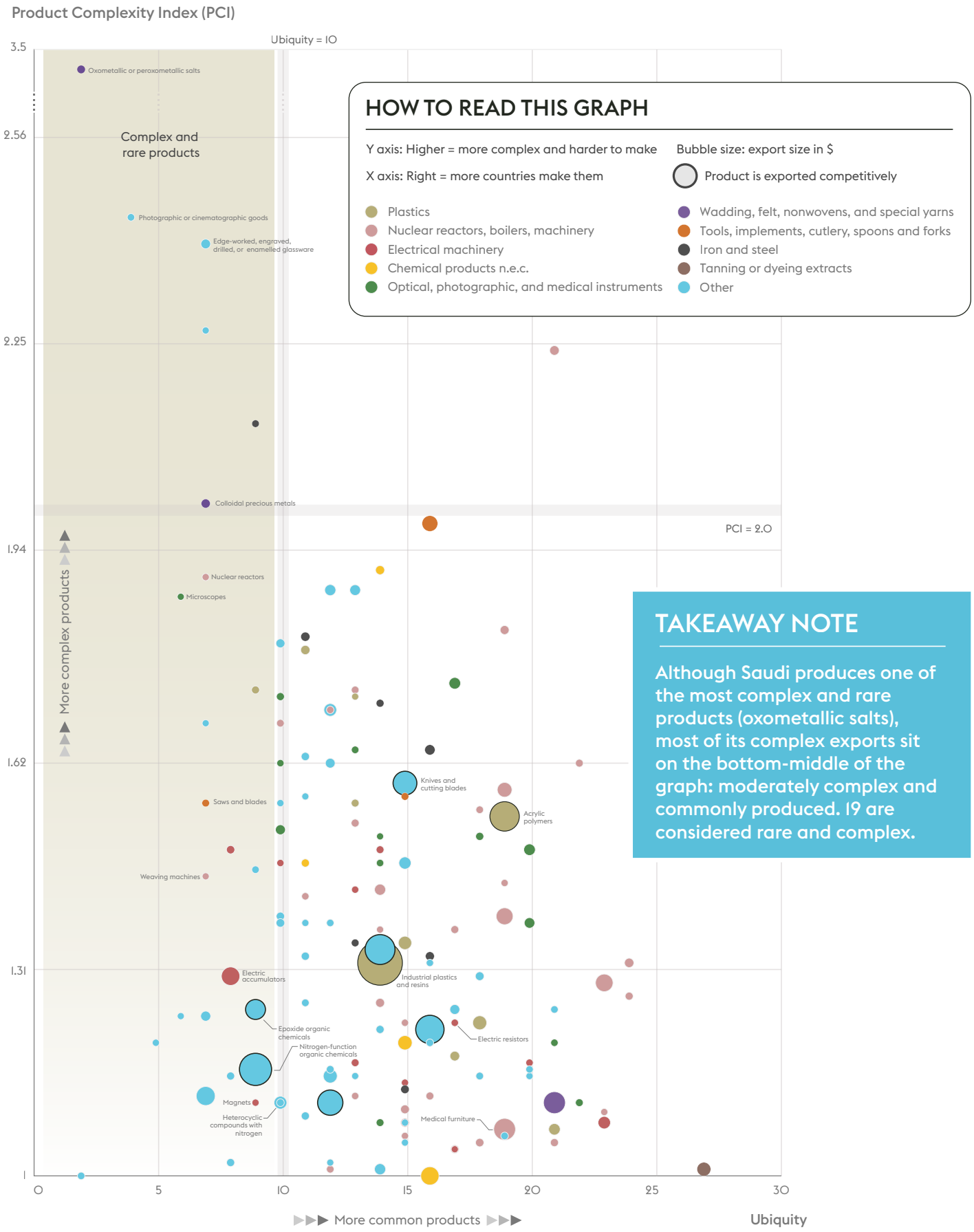
Source: Observatory of Economic Complexity, Atlas of Economic Complexity

Structure and potential of complex basket

This section unpacks the profile and performance of Saudi Arabia's complex export basket and highlights the unrealized potential. It shows that the distinct **142 complex products averaged $3.34 billion a year** (6-7% of non-oil exports), and were **concentrated in plastics, organic chemicals, and nuclear reactors.** It also demonstrates that the product basket is weighted to moderate complexity (≈94% below PCI 2.0), though Saudi does export among world's most complex products. **Ubiquity patterns show that Saudi's complex products are not uncommon globally, with 19 qualified as rare.** And in terms of competitiveness, **only eight products have RCA values ≥ 1,** yet they generate 73% of revenues from complex exports, with an untapped potential of almost $1.1 billion.

In terms of level of complexity, the distribution of Saudi products is skewed toward low-to-mid degrees: about two-thirds of complex exports fall between PCI 1.0–1.5, around one-fourth between 1.5–2.0, and only 6% exceed 2.0 (Figure 6). However, **the Kingdom does export what is considered one of the world's most complex product: salts of oxometallic or peroxometallic acids** (PCI 3.47). Saudi's ability to manufacture this product stems from its advanced chemical infrastructure, supported by abundant and affordable energy, making it one of 12 countries worldwide to export such salts in 2024.

Figure 6: Distribution of complex products across PCI and ubiquity levels

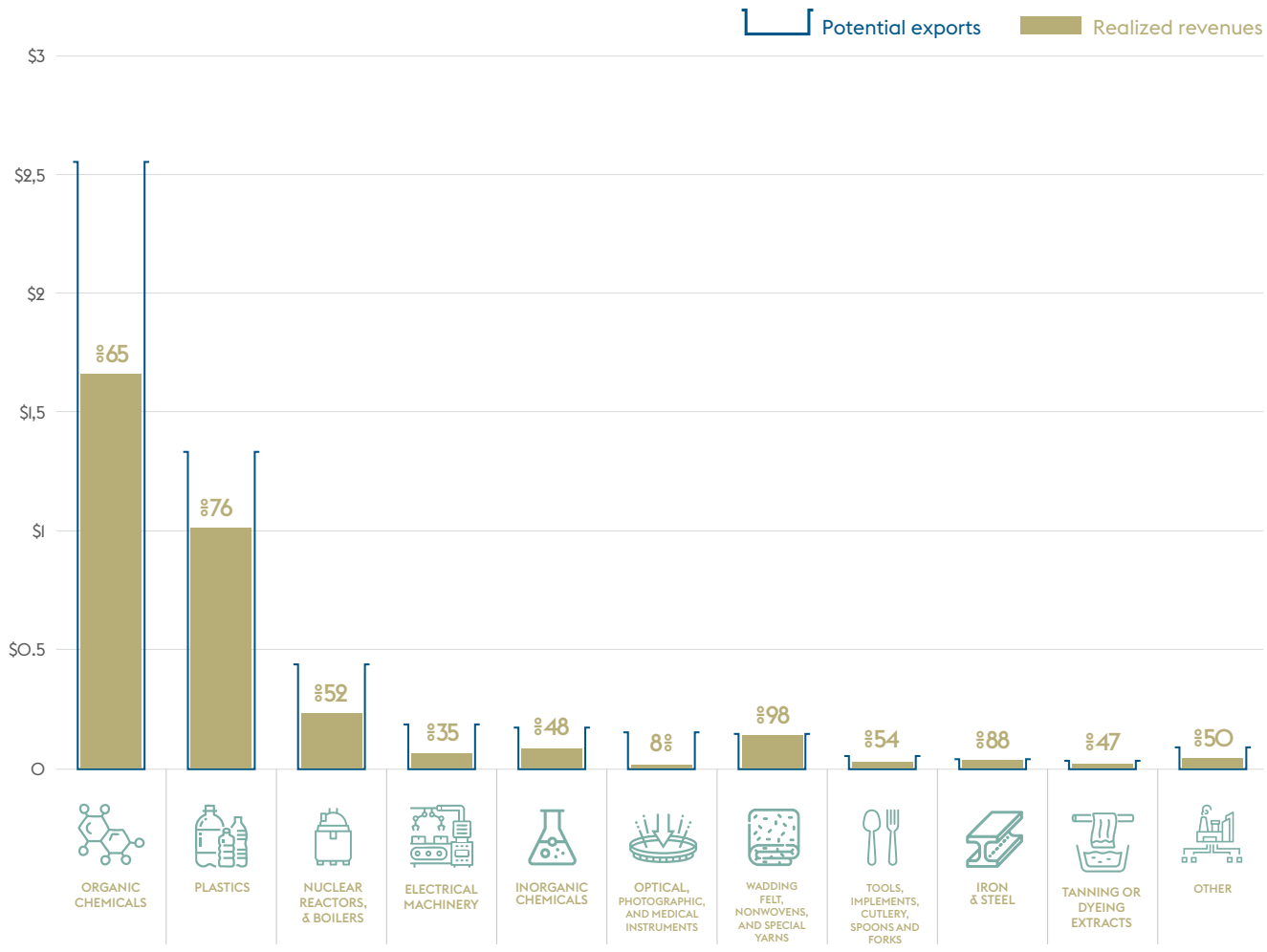


Sources: UN Comtrade; Atlas of Economic Complexity

Competitiveness within the complex basket remains limited. Only eight complex products qualify as competitive (RCA ≥ 1), yet this small set—mainly in chemicals, plastics, and nuclear reactors—generates about $2.4 billion on yearly average, or roughly 73% of total complex export. Looking ahead, the current basket has an estimated unrealized export potential of $1.85 billion by 2030, with 10 products alone accounting for 70% of that gap.

While core complex products are likely to remain as is, several underweight sectors also show promising potential (Figure 7). For example, optical and photographic equipment could grow 12 times its current export size, from $12 million to $149 million, which would make it the sixth-largest complex sector. Electrical machinery could also grow by 85%, from $63 million to $117 million.

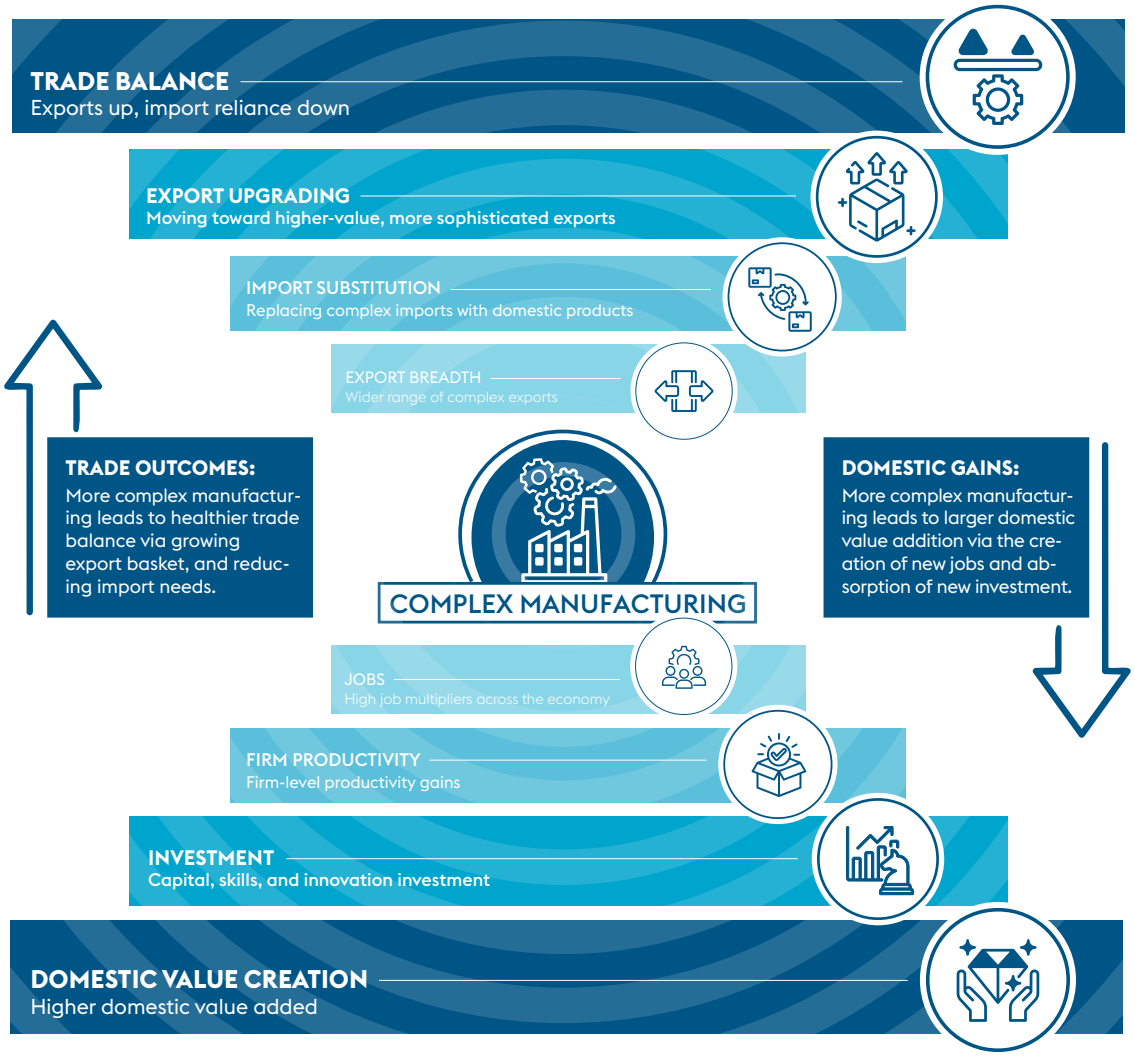
Figure 7: Current exports and unrealized potential of complex products, in $ billion



Source: UN Comtrade

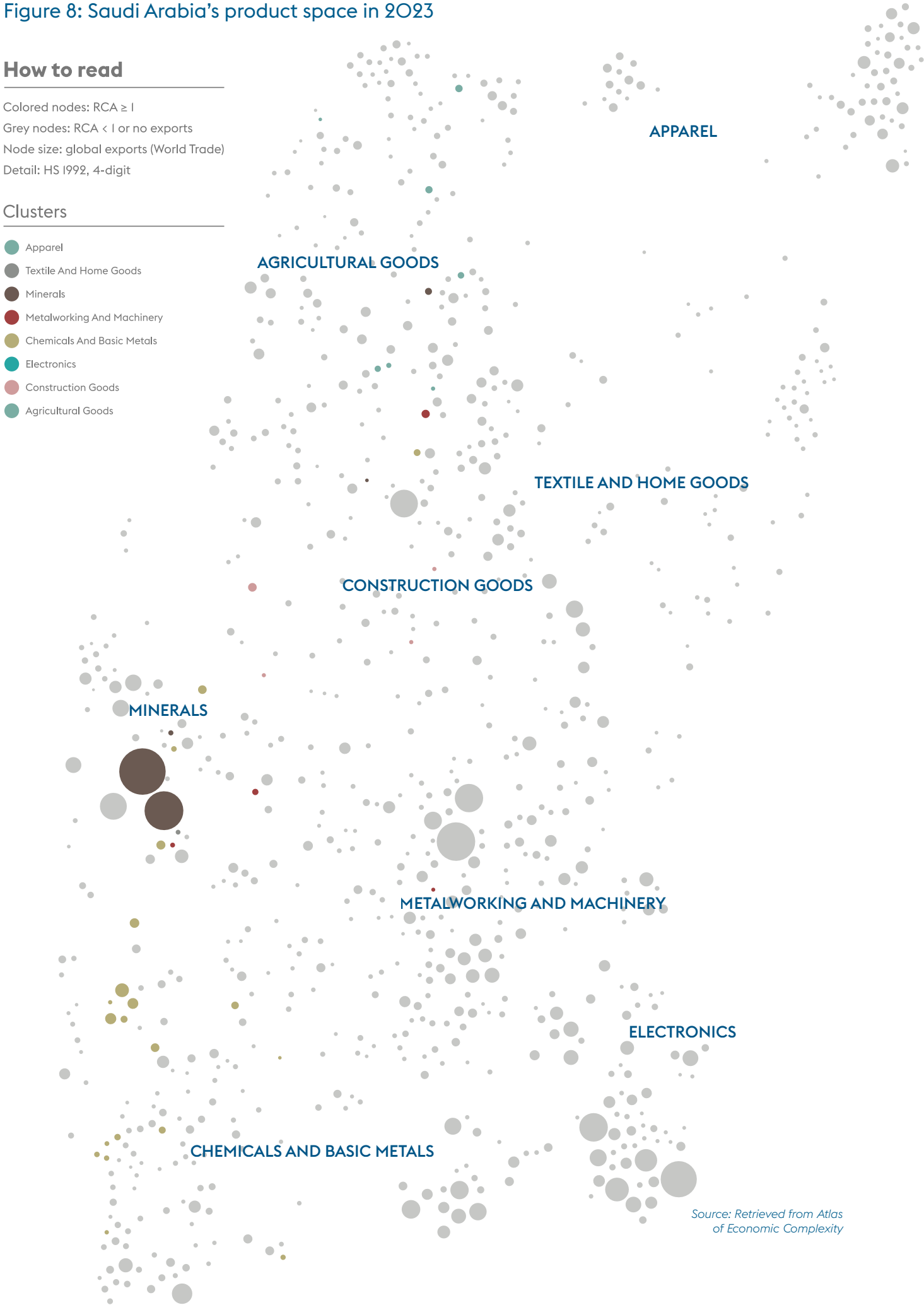
The Next Frontier: Saudi's related complex exports

This section explores the future potential and wider economic implications of Saudi Arabia's complex exports by identifying products that are adjacent to current capabilities. It uses product relatedness to estimate the number and value of exports the Kingdom could leverage from its current baseline. The analysis finds 29 proximate complex products across ten sectors, namely in nuclear reactors, optical equipment, chemicals, iron and steel, and railways. In total, this expansion could create new export markets that lift the potential to over $5 billion. Beyond trade gains, the broader economic reverberations are also documented: complex manufacturing activates larger value chains, higher job multipliers, and faster productivity gains.



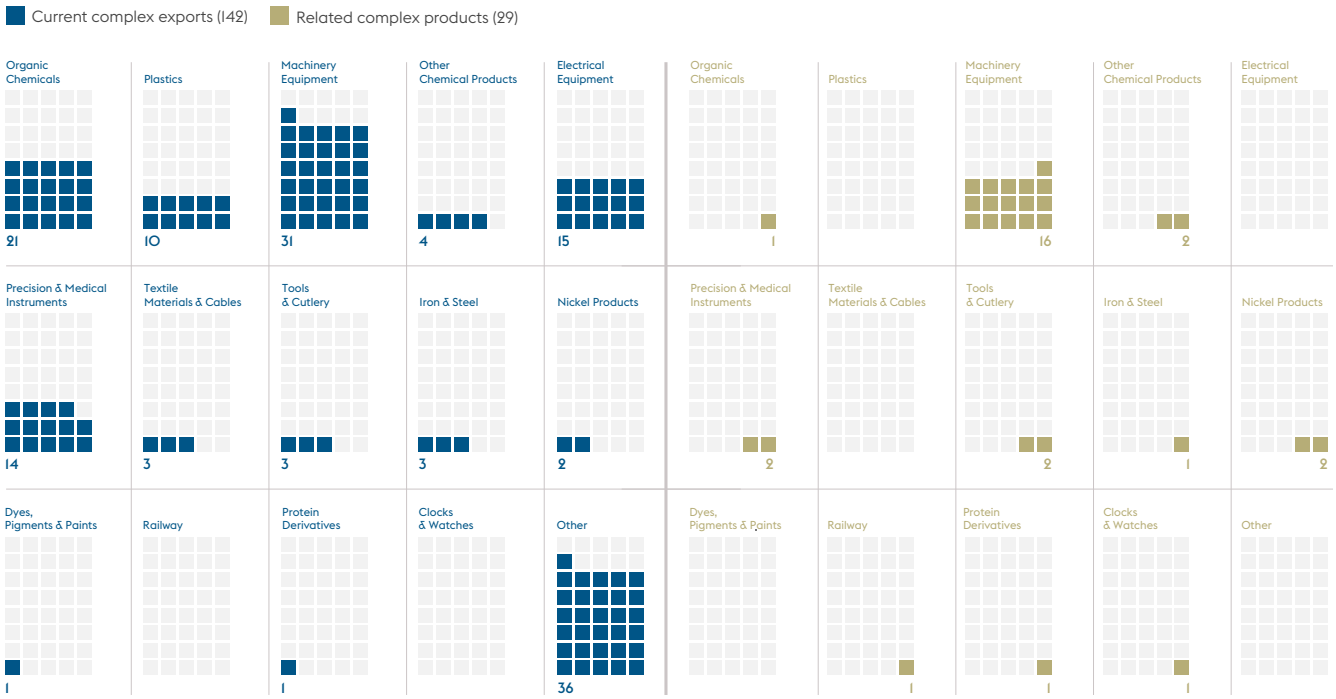
The product space can help identify the Kingdom's current, established industrial capabilities and inform diversification into adjacent ones. The distance within which products are placed in space is a function of the probability of products being exported competitively by the same country globally (Figure IO). Saudi has proven prominence in chemicals, basic metals, and minerals, so venturing into related complex products is most achievable when pivoting to those sectors with shared industrial capabilities

Figure 8: Saudi Arabia's product space in 2023



Source: Retrieved from Atlas of Economic Complexity

Figure 9: Distribution of related complex products across sectors



Source: Atlas of Economic Complexity

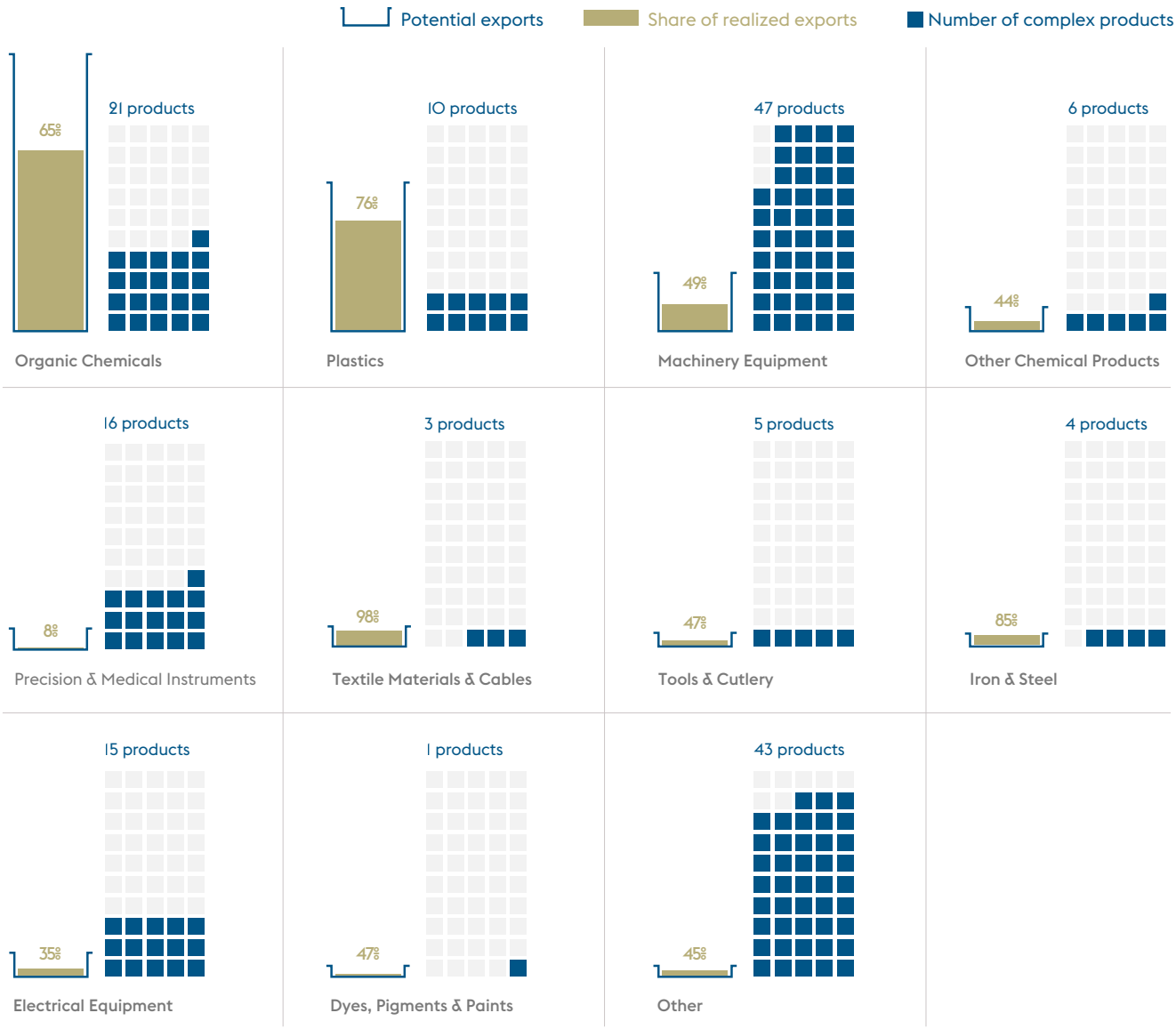
Putting a number to the created market: The working assumption is that, after entry into related products, Saudi Arabia maintains its current share of the global market in complex products, and thus captures a proportional share in these new items. Applying Saudi's 0.1% global footprint in complex exports to the newly identified 29 proximate products opens an incremental opportunity of $143 million, lifting the unrealized trade revenues to $2 billion.

Importantly in the product space, each new product acts as a bridge that brings previously distant industries closer to the country's capabilities. In this sense, expanding into new complex products also accelerates the process of domestic industrial capability development, which again reinforce new product discoveries and exports in the long-run.

Activating this flywheel also has a large implication on the import bill. For example, Saudi Arabia imported 191 complex products over the past five years, with an average annual value of $20.9 billion. Mapping these imports against the Kingdom's current and adjacent export opportunities reveals an overlapping space of $1.2 billion in unrealized substitution—i.e. 6% of Saudi Arabia's complex imports could be localized.

Beyond trade revenues, empirical literature documents the employment and productivity multipliers. Each direct job in manufacturing supports roughly 2.2 additional jobs across related industries, about twice that of non-manufacturing sectors.[13] Moreover, firms integrated into complex supply chains raise productivity by up to 9% and employ around 26% more workers and achieve up to 9%.[14] Enabling advanced manufacturing, however, depends on industrial R&D, which allows firms to upgrade technologies.

Figure IO: Full export potential of complex products by sector



Source: UN Comtrade; Atlas of Economic Complexity International Trade Center

Thought Bubble: The spillover reaction of complex manufacturing

Complex goods depend on dense networks of suppliers, services, and knowledge and asset-intensive centers. A single transaction order of assembled vehicles for a logistics fleet triggers wide value-additive activities: parts suppliers ramp up metals, wiring, and precision components, workshops expand machining and surface treatment, and finishing facilities work on testing and quality control. As demand rises, these linkages mean firms expand payrolls, invest in equipment and R&D, and build process capabilities, translating one additional riyal of complex manufacturing demand into sustained business activity across the economy.

Looking Ahead:

Towards an active complex manufacturing

Moving Saudi's manufacturing up the complexity ladder is a formidable mission that is coinciding with a changing cost environment. With the expatriate labor-levy exemption ending in December 2025, higher labor costs means industrial will depend more on productivity gains and innovation. To this end, this report defines the development of Saudi's complex manufacturing via two tracks. First, strengthening what already competes, and second, venturing into adjacent complex opportunities.

01 Strengthen performance within the current complex basket

In order for Saudi Arabia to strengthen and sustain competitiveness, it should:

Align human capital with industrial demand: Update technical and vocational curricula to reflect automation, robotics, and digital-control technologies; expand structured apprenticeships linked to complex sectors to build a skilled domestic workforce.

Introduce a productivity-linked incentive scheme Tie a portion of fiscal incentives to measurable productivity and technology adoption, encouraging investment in digitization and business development.

Reinforce global competitiveness: Introduce a productivity-linked incentive scheme: Tie a portion of fiscal incentives to measurable productivity and technology adoption, encouraging investment in digitization and business development.

Expand workforce development and localization: Support the recruitment and skill enhancement of national talent in key manufacturing sectors with proven market reach.

02 Diversify into Proximate Complex Products

To capture new growth and deepen the industrial base, Saudi Arabia should activate adjacent complex opportunities—those most related to its current capabilities—through:

Establish industrial innovation platforms: Create shared R&D, design, and prototyping centers in emerging complex product categories, principally in optical, photographic, and precision instruments, to lower entry barriers for manufacturers.

Facilitating technology transfer and partnerships: Expand joint ventures and technical-service agreements that include provisions for skill transfer, joint R&D, and access to advanced production technologies.

Mobilizing finance for first movers: Channel targeted financing through public and private funds using concessional loans, export-credit guarantees, and performance-linked grants to de-risk entry into new complex sectors.

Institutionalize industrial intelligence: Establish a Complex Manufacturing Observatory to track real-time complexity metrics (PCI, RCA, ubiquity, relatedness) and integrate them into industrial policy design and performance monitoring.

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About this report

This report is an independent research publication by Strategic Gears. It is based on quantitative analysis of international trade statistics and official public to study the evolution and structure of Saudi Arabia's industrial capabilities. As disclaimer, this report aims to contribute to evidence-based dialogue between policymakers and business leaders surrounding the current state and potential of Saudi manufacturing, and should not be perceived as investment advice or substitute for our professional advisory services.

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