

THE PCB SUPPLY CHAIN

Market Conditions · Forecasting · Opportunities

Speaker Notes & Briefing

Companion to the 45-slide presentation

Prepared for International Electronic Components (IEC) · Custer Contexto Group · September 2026

How to use this briefing

This is the speaker script for the 45-slide presentation. Present from the deck and prepare from this. Each slide has three parts: what the chart shows, the numbers worth saying out loud, and what it means for IEC.

Every number in this briefing is on a slide and traces to a named source. There are two kinds of source. Market figures come from Dr. Hayao Nakahara (N.T. Information Ltd), including the NTI-100 census of the world's PCB makers. Company trends come from CCG composites, built from the companies' own filings and held in the Custer Financial Database. If a customer asks where a number comes from, the answer is on the slide.

The one big idea

Electronics runs in cycles, and the cycle does not hit every part of the supply chain at the same time or with the same force. Walt Custer's framework holds that the tiers furthest from the end customer, such as materials and equipment, swing hardest. That is why reading the cycle early matters most to a company in IEC's position.

CCG's own composites support this for materials. In the 2009 downturn, the 12/12 growth rate of CCG's electronic materials composite fell to **-33.5%**, against **-23.4%** for semiconductors, **-24.1%** for process equipment suppliers and **-19.2%** for PCB fabricators. In the 2023 correction, distributors bottomed in Q1 2024 (3/12 at **-17.5%**), about four quarters after semiconductors bottomed in Q1 2023 (**-19.3%**). The timing among the other tiers varies from cycle to cycle. In 2009 all four composites bottomed in the same quarter; in 2023 materials bottomed first. So watch every tier rather than assuming a fixed order.

Walt Custer's 3/12 and 12/12 method is the tool for reading this. 3/12 compares the latest quarter with the same quarter a year earlier. 12/12 compares the last four quarters with the four before. When 3/12 runs above 12/12, growth is accelerating. When it drops below, growth is slowing, and that is usually the first sign of a turn.

Part 1 — The World PCB Market

Slide 2 — World PCB Output by Location, 2021–2025F

- **\$95.3B** of PCBs were made worldwide in 2024. Nakahara estimates 2025 at about **\$100B**.

- The market dipped **7.6%** in 2023 to \$90.1B and recovered **5.8%** in 2024. The 2025 bar is his March 2025 forecast, and his full 2025 census is still to come. Taiwanese makers' actual 2025 growth (+16.1%, slide 8) suggests the final figure could come in higher.
- China produced **\$56.9B** in 2024, which is **60%** of the world total.
- Thailand and Vietnam together rise from \$6.65B to \$7.97B (+20%). That is the "China+1" build-out showing up in output.
- The totals include about \$8B of assembly done by PCB makers, which Nakahara counts in his figures.

Source: N.T. Information Ltd, Preliminary Estimate of World PCB Output (March 2025); NTI Digest, April 2026.

For IEC: Demand is growing and the capacity is still concentrated in China, with new plants going into Thailand and Vietnam. Plan coverage for both.

Slide 3 — World PCB Output Y/Y Growth, 2022–2025F

- 2022 **+6.7%**, 2023 **–7.6%**, 2024 **+5.8%**, 2025 forecast **+5.1%**.
- The 2025 figure is Nakahara's March 2025 forecast. Taiwan makers' actual 2025 growth of 16.1% (slide 8) suggests the final number will be higher.

Source: N.T. Information Ltd, World PCB Output (March 2025).

For IEC: The 2023 dip was short. The market was back to growth within a year.

Slide 4 — World PCB Market Outlook, 2021–2030F (CCG Forecast)

- Blue bars are Nakahara's output figures to 2025. Orange bars are the CCG forecast: **\$116.8B** in 2026, **\$145B** in 2028 and **\$175B** in 2030.
- That is growth of about 12% a year from Nakahara's 2025 forecast of \$100.2B.

Source: N.T. Information Ltd, World PCB Output (March 2025) for 2021–2025; CCG forecast (Prismark/CCG growth model) for 2026–2030.

For IEC: CCG expects the PCB market to grow much faster this decade than it did from 2021 to 2025, led by AI servers.

Slide 5 — Next ~\$80B of PCB Growth by Opportunity, 2024–2030F

- CCG's model adds up to **\$78.5B** of new PCB revenue from 2024 to 2030, in line with the move from \$95.3B to \$175B.
- AI server PCB is the largest at **\$29B**, then IC substrates at \$15B and EV powertrain + ADAS at \$14B. Together these three are **\$58B**, 74% of the increase.
- The rest is spread across 5G/6G infrastructure, wearables, space, medical, consumer and aerospace/defense.

Source: Custer Contexo Group PCB growth-opportunity model.

For IEC: Three markets drive most of the growth: AI servers, IC substrates and EV electronics.

Slide 6 — Top 15 Global PCB Makers, 2024

- Zhen Ding leads at **\$5.48B**, followed by Unimicron (\$3.69B) and DSBJ (\$3.45B).
- The Top 15 by headquarters: Taiwan 5, China 4, Japan 2, South Korea 2, United States 1 (TTM), Austria 1 (AT&S).

- Fastest growers in the Top 15 in 2024: WUS Group **+42.8%**, BH Flex **+34.8%**, Shennan **+32.4%**.
- The Top 30 makers total **\$52.5B**. All 159 makers with more than \$100M in PCB revenue total **\$85.1B**, up 9.3%.

Source: Nakahara, NTI-100 2024, Table 2 (July 2025). Zhen Ding figure includes Avary.

For IEC: This is the account map at the top of the market. Prioritize the fast growers adding substrate and high-layer capacity.

Slide 7 — Maker HQ vs Production Location, 2024

- Taiwanese makers earned **\$25.6B** but only **\$11.0B** of PCBs were made in Taiwan, a ratio of 2.3×. About **\$16.7B** of what Taiwanese companies make is produced in China.
- Japanese makers earned \$13.8B against \$5.6B made in Japan (2.5×).
- Of the \$56.9B made in China, Nakahara puts about \$36B with Chinese makers and \$16.7B with Taiwanese makers; Japanese, US and other makers account for the rest. Roughly 37% of China's output comes from foreign-owned plants.
- Southeast Asia and India produced \$8.3B, but local makers account for under \$1B of it.
- The two bars measure different things. Ownership counts only makers above \$100M (\$85.1B in total); location counts all output (\$95.3B). The regions are close but not identical on each side (for example, North America for HQ against North and South America for location).

Source: Nakahara, NTI-100 2024, Table 8; N.T. Information Ltd, World PCB Output 2024E.

For IEC: Sell to the owner as well as the plant. A Taiwanese-owned plant in China or Thailand usually buys on the parent company's terms.

Slide 8 — Taiwan PCB Makers, 2024 vs 2025

- Taiwan's 26 largest makers grew from **\$25.4B to \$29.5B** in 2025, up **16.1%**. (The NTI-100 table on slide 7 puts Taiwanese makers at \$25.6B for 2024; the two tables differ slightly.)
- Among the ten largest, Gold Circuit grew fastest at **+54%**. WUS Group added the most dollars (+\$724M, +37%). HannStar grew 37%, helped by its purchase of Linkstech; Kinsus grew 29% and Nan Ya PCB 24%.
- Flexium fell **15.5%**. Flexible circuits for consumer devices are the weak spot.
- These are Nakahara's final 2025 figures for Taiwan, his first published 2025 actuals.

Source: Nakahara, Top Taiwan PCB Makers in 2025 (Final), NTI Digest, April 2026, at NT\$31.35 per US\$.

For IEC: The growth is in AI-server boards and IC substrate (Gold Circuit, WUS, Kinsus, Nan Ya), not consumer flex. Aim the product mix there.

Slide 9 — IC Package Substrate Makers, 2024E vs 2025F

- Nakahara estimates the world organic IC substrate market at about **\$14.3B** in 2024, rising to **\$16.2B** in 2025 (+13.9%).
- Unimicron leads at \$2.30B, rising to \$2.65B. Ibiden (+27%), Kinsus (+26%) and LG Innotek (+26%) grow fastest among the top 12; Kyocera slips 5%.
- Taiwan, Japan and South Korea hold 10 of the top 12; China's largest entry is Shennan (SCC) at \$0.6–0.7B.
- Nakahara labels these figures as estimates, to be updated.

Source: Nakahara, *Top 20 Organic IC Substrate Makers, Estimated* (N.T. Information Ltd, November 2025).

For IEC: Substrate is where AI-chip packaging demand lands first. These makers are the highest-value, most materials-intensive accounts.

Slide 10 — Automotive PCB Makers, 2024

- Japanese makers hold the top three spots: Meiko **\$597M**, Mektec \$563M and CMK \$542M in automotive PCB revenue.
- The top 25 total **\$7.9B**; Nakahara puts the world automotive PCB market at about **\$12.3B**.
- Most of the rest of the top 25 make their automotive boards in China, as Chinese makers or Taiwanese makers with plants there. KCE is the only Thai maker in the top 25, at \$275M.
- Nakahara cites Unitech: automotive PCB makers cannot make a profit on regular 1–8 layer boards; HDI and high-layer-count boards are where demand is strongest.

Source: Nakahara, *Estimated Top 25 Automotive PCB Makers in 2024* (N.T. Information Ltd, August 2025).

For IEC: Automotive is a steady, high-reliability market. Aim at the HDI and high-layer programs, where the growth and the margins are.

Slide 11 — World PCB by End Market, 2025 vs 2027F (CCG estimates)

- CCG estimates the market at **\$98.5B** in 2025, rising to **\$135.5B** in 2027. That is an ambitious path, about 17% a year; the same CCG workbook shows a slower five-year growth rate.
- AI servers and high-performance computing show the largest gain, from \$17.5B to **\$32.0B**. Semiconductor package substrate grows from \$10.5B to \$18.5B, and automotive from \$14.5B to \$19.0B.
- These are CCG estimates, compiled in July 2026 from Nakahara, Prismark, HNPCA and other sources. They are less firmly sourced than the rest of the deck, and Nakahara's own figures differ for some segments (he puts automotive at \$12.3B for 2024).

Source: Custer Contexto World PCB Market Data Warehouse (July 2026).

For IEC: Most of the added dollars through 2027 are in AI servers and substrate.

Slide 12 — World PCB Technology Mix, 2025 (CCG estimates)

- Multilayer boards of 4–18 layers are the largest group at **33.5%** of value. Flex and rigid-flex are 15.7%, IC substrate 14.2%, high-layer boards above 18 layers 12.7%, HDI 12.0% and single/double-sided 9.6%.
- IC substrate, HDI and high-layer boards together are **39%** of value.
- Same source and caveat as slide 11. The figures for IC substrate differ by source: \$14.0B here, \$10.5B for package substrate in the end-market view on slide 11, and \$16.2B in Nakahara's estimate on slide 9. Treat slides 11 and 12 as directional.

Source: Custer Contexto World PCB Market Data Warehouse (July 2026).

For IEC: Value is concentrated in the complex boards, which use the most materials per board.

Part 2 — CCG's PCB Composite and the Cycle

Slide 13 — CCG PCB Fabricator Composite

- Q1 2026 revenue of **\$6.69B**, up **32%** from a year earlier, a new quarterly high for the composite.
- 3/12 is +32.0% and 12/12 is +25.8%, so growth is still accelerating.
- For comparison, 12/12 bottomed at **-21.3%** in Q4 2023 and at -19.2% in 2009.
- The composite covers 35 fabricators (19 still reporting), including Ibiden, Unimicron, TTM, Nan Ya PCB, Tripod, Compeq, Gold Circuit, Kinsus and AT&S. Ibiden is carried on Walt Custer's fiscal labels, so its April to June quarter sits in the Q1 point. Q2 2026 follows Ibiden's report, due around October 30.

Source: Custer Financial Database, company filings (Custer_Composite_Rosters, September 2026).

For IEC: Your customers' revenue is growing at its fastest pace in years, and they will be buying materials and consumables to keep up.

Slide 14 — CCG Business Cycle Hypothesis

- This is the signature CCG framework, and it is illustrative: the same cycle reaches each tier with a bigger swing and a time lag. Electronic equipment swings about $\pm 1\%$, EMS $\pm 1.5\%$, components $\pm 2.5\%$, raw materials $\pm 3.5\%$ and capital equipment $\pm 5\%$, with a lag.
- In real data the size of the swing supports the idea: in 2009, materials fell further than semiconductors, equipment and fabricators (see "The one big idea"). The order in which tiers turn varies from cycle to cycle.

For IEC: This one chart explains IEC's risk: the materials end of the chain swings hardest. The indicators later in the deck are how to see the turn coming.

Slide 15 — The Bullwhip Cascade

- Also illustrative: a 5% change in end demand grows at each step up the chain, reaching about a 42% swing in equipment orders. Customers over-order in upturns and cut hard in downturns.

For IEC: A small wobble in end demand is not a small event for your order book. Plan inventory for the amplified swing, not the headline one.

Slide 16 — Taiwan EMS / ODM Composite

- May 2026 revenue of **NT\$1,867B** for the 12 companies, up 39.5% from NT\$1,338B in May 2025. The three months to May are the highest on record.
- 3/12 is **+46.6%**, the highest in the series since 2015, and 12/12 is **+30.9%**, so assembly is still accelerating.
- The 12 are Foxconn, Quanta, Wistron, Pegatron, Compal, Inventec, Lite-On, USI, Gigabyte, Clevo, MSI and Asus. Wiwynn is included through Wistron, which consolidates it (40.13% owned per Wistron's 2025 financial statements), so it is not counted twice. The data are their monthly revenue filings on the Taiwan Stock Exchange, in NT dollars. Foxconn and Quanta 2024 totals match their reported results.
- Assembly sits downstream, so it confirms the cycle rather than leading it.

Source: CCG EMS Master Data (TWSE monthly revenue), January 2015 to May 2026; Wiwynn excluded to avoid double counting with Wistron.

For IEC: Taiwan EMS/ODM revenue is at record levels, driven by AI servers. The boards and substrates behind it are IEC's market.

Slide 17 — Electronic Component Distributors (Arrow + Avnet)

- Q4 2025 revenue of **\$15.1B**, still below the Q4 2022 peak of \$16.0B.
- The 2023–24 inventory correction took 3/12 to **-17.5%** in Q1 2024. It turned positive in Q2 2025.
- In Q4 2025, 3/12 was **+16.4%** against 12/12 of **+7.1%**. The recovery is accelerating.
- Distributors lag the cycle. In 2023 they bottomed about four quarters after semiconductors did.

Source: Custer Dashboard Earnings Tracker (from the Custer Financial Database); Arrow 2023 and 2024 totals match its 10-K. Calendar quarters. 2026 quarters will be added once filed actuals replace placeholders.

For IEC: Distribution is recovering but has not reclaimed its 2022 peak. Watch distributor 3/12 against 12/12 for the first sign of the next slowdown.

Part 3 — Upstream Signals

Slide 18 — CCG Semi Composite — Quarterly Revenue

- Q2 2026 revenue of **\$204.9B**, up **81%** from \$113.0B a year earlier. This is the strongest year-over-year growth in the composite's history, which starts in 2000.
- The composite uses Walt Custer's 39-company series to Q1 2018, then a continuation panel with 22 companies still reporting. They include TSMC, Intel, Micron, SK Hynix, Qualcomm, Texas Instruments and AMD. The current panel does not include Nvidia or Samsung.

Source: Custer Financial Database, company filings; US\$ at Federal Reserve quarterly-average exchange rates.

For IEC: Semiconductors pull boards and materials behind them. This much growth upstream means more demand for substrate and high-layer boards ahead.

Slide 19 — CCG Process Equipment Suppliers Composite

- Q2 2026 revenue of **\$4.65B**, up **24%**. 12/12 is +11.7%.
- This is Walt Custer's "Process Equipment Related Suppliers" composite. Its 12 members include Nordson, Cadence, Kulicke & Soffa, Ultra Clean, Cohu, FormFactor, Axcelis, Azenta, Novanta, Camtek and CSUN, so it reaches beyond PCB tools into design software and semiconductor equipment.

Source: Custer Financial Database, company filings.

For IEC: Equipment spending comes before production. Rising equipment revenue means customers are adding capacity, and new capacity needs materials to run.

Slide 20 — CCG Electronic Materials Composite (ex-Laminate)

- Q2 2026 revenue of **\$3.61B**, up **21%**. 12/12 is +10.8%.
- Still below its 2018 and 2021 highs of about \$4.1–4.2B per quarter. The materials upturn is earlier in its run than semiconductors.

- The suppliers still reporting are Element Solutions, Entegris, Eternal Chemical, Hexcel, Taiwan Glass and Tokyo Ohka.

Source: Custer Financial Database, company filings.

For IEC: This is IEC's own tier. It has turned up but has room to run. Position for growth, and watch for 3/12 falling below 12/12.

Slide 21 — PCB Supply Chain Momentum — 12/12 by Tier

- Latest 12/12: semiconductors **+46.8%**, PCB fabricators **+25.8%** (Q1), process equipment **+11.7%**, materials **+10.8%**.
- In the 2023 correction the tiers bottomed at different depths: fabricators **-21.3%**, materials **-18.9%**, semiconductors **-15.0%**, equipment **-10.3%**.
- All four tiers are now positive and rising.

Source: CCG composites from company filings.

For IEC: Every tier you sell into is growing at once. That is the time to secure supply and grow accounts, not to cut prices.

Slide 22 — CCG Semi Composite — 3/12 vs 12/12

- Q2 2026: 3/12 **+81.3%**, 12/12 **+46.8%**. 3/12 is far above 12/12, which means strong acceleration.
- History is worth mentioning. Before this upturn, the highest reading was **+55.5%** in Q1 2010, after the 2009 low of **-32.9%**. 3/12 peaked in that quarter, and 12/12 peaked two quarters later, in Q3 2010. The current reading passed that level in Q1 2026 (**+57.1%**).
- Readings this high tend not to last. The signal to watch is 3/12 turning down toward 12/12.

Source: Walt Custer 3/12 and 12/12 method applied to the CCG Semi composite.

For IEC: The upturn is real and strong, but an 81% reading is closer to a peak than a start. Grow with it, and keep contracts and inventory flexible.

Part 4 — CCG 39-Sector Composites (389 Companies)

These slides compare Q1 2024 with Q2 2026, a span of nine quarters, for 39 sector composites built from 389 companies. The sector rosters are different from the CCG long-run composites on slides 13 and 16–22, so growth rates for similarly named sectors do not match. For example, the 19-company semiconductor sector here grew 84%, while the CCG semi composite on slide 18 grew faster.

Slide 23 — Q2 2026 Revenue by Supply Chain Tier

- The 389 companies had **\$2,985B** in revenue in Q2 2026.
- The largest tiers were data center hyperscalers (\$604.9B), automotive (\$571.6B), OEMs (\$437.9B) and semiconductors (\$294.0B). The hyperscaler composite's Q1 2024 base is being reconciled with company filings, so its separate growth chart is held back.

Source: CCG 39-sector composites.

For IEC: This shows where the dollars sit across the chain.

Slide 24 — Assembly Tier Composites

- EMS/ODM revenue rose **87%** (\$73.8B to \$137.8B). Motherboard makers rose **249%** (\$14.2B to \$49.4B).

Source: CCG Assembly tier: 16 EMS + 9 motherboard makers.

■ **For IEC:** AI server motherboards are the fastest-growing part of assembly.

Slide 25 — Semi Tier Composites

- Semiconductors rose **84%**. IC substrates and advanced packaging rose **119%**, specialty foundries 50%, OSAT 46% and sensors 30%.

Source: CCG Semi tier: 51 companies.

■ **For IEC:** Substrate and packaging are growing faster than chips themselves.

Slide 26 — Components Tier Composites

- Photonics, LiDAR and optical rose **135%**, on data center optics. Optics rose 41%, displays 35%, electronic components 31% and cables and fiber 16%.

Source: CCG Components tier: 46 companies.

Slide 27 — Materials + Equipment Tiers

- Process equipment rose **41%** and electronic materials **30%**. SMT/PCB assembly equipment rose 20%. Battery materials fell 3%.

Source: CCG Materials + Equipment tiers: 44 companies.

■ **For IEC:** IEC's own tier is growing, but more slowly than the chip and substrate tiers above it.

Slide 28 — Foundational Tier Composites

- Semiconductor IP rose **139%**, EDA software 43% and photomasks 13%.

Source: CCG Foundational tier: 18 companies.

■ **For IEC:** Chip design activity is running well ahead, which points to more silicon, and more boards, later.

Slide 29 — Automotive Tier Composite

- Traditional automakers were flat (**-0.3%**). EV makers rose 97% and EV charging 125%.

Source: CCG Auto tier: 25 companies.

■ **For IEC:** Automotive is split: EV and charging are growing while traditional automakers are flat.

Slide 30 — Solar + Storage Tier Composite

- Battery storage rose **144%** and solar inverters 95%. Installers rose 15% and panel makers 6%.

Source: CCG Solar tier: 26 companies.

■ **For IEC:** The power-electronics demand is in inverters and storage, not panels.

Slide 31 — Automation Tier Composites

- Autonomous driving rose **326%**, from a small base (\$0.3B to \$1.3B a quarter). Robotics and automation rose 18%.

Source: CCG Automation tier: 15 companies.

Slide 32 — Consumer Composites

- Wearables and smart glasses rose **64%**, medical devices 21% and smart appliances 12%.

Source: CCG End Markets: 49 companies.

Slide 33 — OEM Tier Composites

- Electronics OEMs rose **16%** and phone makers 12%.

Source: CCG OEM tier: 20 companies.

■ **For IEC:** OEMs sit at the end of the chain. They confirm demand rather than lead it.

Slide 34 — Top 15 Sectors by Operating Margin

- Wearables and smart glasses lead at **43.4%**, followed by semiconductors (40.4%), semiconductor IP (28.8%) and EDA (28.6%).
- The wearables and solar installer (28.1%) margins are unusually high for those industries and are being checked against the company rosters.

Source: CCG 39-sector composites, trailing twelve months.

■ **For IEC:** High-margin customers invest through the cycle and pay for quality.

Slide 35 — Margin Distribution, All 39 Sectors

- Operating margins range from **4.7%** for distribution to 43.4% for wearables. EMS/ODM assembly is at 5.7%.

Source: CCG 39-sector composites.

■ **For IEC:** Know where each customer sits on this range; it shapes how they buy.

Slide 36 — Top 15 Sectors by Revenue Growth, Q1 2024 to Q2 2026

- Autonomous driving (**+326%**), motherboards (+249%) and battery storage (+144%) lead.

Source: CCG 39-sector composites.

■ **For IEC:** These are the durable growth areas; align account plans with them.

Slide 37 — Top 15 Sectors by 3/12 Growth, Q2 2026

- The fastest current growth is in autonomous driving (**+77.6%**), motherboards (+71.3%) and EV charging (+48.9%).

Source: CCG 39-sector composites.

■ **For IEC:** This is where growth is fastest right now.

Slide 38 — All 39 Sectors by Revenue Growth

- Battery materials (−2.7%) and traditional automakers (−0.3%) are the only sectors that shrank over the nine quarters.

Source: CCG 39-sector composites.

Slide 39 — All 39 Sectors by 3/12 Growth, Q2 2026

- Traditional automakers are the only sector with negative 3/12 growth (−0.3%). By CCG's rule, above 20% is expansion, 0–20% is a plateau and below 0 is contraction.

Source: CCG 39-sector composites.

■ **For IEC:** Use this with slide 38 to separate lasting growth from a short burst.

Part 5 — Long-Run History (Walt Custer's Composites)

These five charts are Walt Custer's own composites from his Rev-Eleq and Rev-Oth decks. Each series ends between 2016 and 2021, so they show long-run cycles, not the current market. The current versions are on slides 16–22.

Slide 40 — CCG 213-Company Composite, 2000–2019

- Revenue doubled from **\$1.54T** in 2000 to **\$3.03T** in 2019.
- Down years: 2001 (−6.8%), 2002 (−0.4%), 2009 (−8.6%), 2015 (−5.8%) and 2019 (−0.9%).

Source: Walt Custer, Rev-Eleq deck.

■ **For IEC:** Four downturns in 20 years (five down years). None lasted more than two years in this series.

Slide 41 — World Electronic Equipment Production by Type, 2000–2019

- Production grew from **\$718B** in 2000 to **\$1.43T** in 2019. Computers and peripherals were the largest type, at \$392B in 2019.
- Down years: 2001 (−7.8%), 2002 (−0.4%), 2009 (−9.0%), 2015 (−5.9%) and 2019 (−0.9%).

Source: Walt Custer, Rev-Eleq deck, at fluctuating exchange rates.

Slide 42 — CCG Large EMS 9-Company Composite, 2000–2021

- Revenue grew from **\$65B** in 2000 to **\$290B** in 2021. The deepest drop was 2009, at −12.4%.
- Members: Benchmark, Celestica, Flex, Foxconn, Jabil, Plexus, Sanmina, Sypris and Venture.

Source: Walt Custer, Rev-Oth deck.

Slide 43 — CCG Passives 14-Company Composite, 2000–2021

- Passives swing hard: **−37.5%** in 2001, **−10.1%** in 2009 and **−10.6%** in 2019, then a record **\$58.4B** in 2021.

Source: Walt Custer, Rev-Oth deck.

■ **For IEC:** Passives are one of the earliest tiers to feel a shortage or a glut.

Slide 44 — CCG Distributors 9-Company Composite, 2000–2016

- Distributors fell **19.9%** in 2001 and another 20.2% in 2002, then 9.2% in 2009. Revenue peaked at \$54.0B in 2014.

Source: Walt Custer, Rev-Oth deck.

For IEC: Distribution had two straight years of roughly 20% declines in 2001–02. That is the risk case for inventory planning.

Part 6 — The Scoreboard

Slide 45 — Executive Dashboard — Six Numbers That Matter

- World PCB output: **\$95.3B** in 2024 and an estimated **\$100B** in 2025; the CCG forecast is **\$175B** by 2030.
- China makes **60%** of the world's PCBs.
- CCG Semi composite **+81%** (Q2 2026); CCG PCB fabricator composite **+32%** (Q1 2026).

For IEC: If your team remembers six numbers, make it these. Refresh them each quarter.

The current read

Every CCG composite in this deck is accelerating, with 3/12 above 12/12:

CCG composite	Latest qtr	3/12	12/12	Read
Semiconductors (22 live)	Q2'26	+81.3%	+46.8%	Accelerating
PCB fabricators (19 live)	Q1'26	+32.0%	+25.8%	Accelerating
Process equipment suppliers (11 live)	Q2'26	+24.3%	+11.7%	Accelerating
Electronic materials (6 live)	Q2'26	+21.1%	+10.8%	Accelerating
Distributors (Arrow + Avnet)	Q4'25	+16.4%	+7.1%	Accelerating
Taiwan EMS / ODM (12, monthly)	May'26	+46.6%	+30.9%	Accelerating

Where the next turn will show first. Watch for any tier's 3/12 falling below its 12/12, with semiconductors first because they lead. At +81.3%, semiconductor 3/12 is well above the level that marked the peak of the 2010 rebound. Materials and equipment are earlier in their upturn, at 12/12 of about +11%.

Next data points. Ibiden's report around October 30 completes the PCB fabricator composite for Q2 2026. Filed Q1 and Q2 2026 results for Arrow and Avnet will extend the distributor series.

How CCG supports IEC's sales team

CCG's composites give the timing: which tiers are accelerating or slowing, from the companies' own filings, updated each quarter. Nakahara's census gives the structure: who owns the capacity, where it sits, and who is growing. Together they tell your team which accounts to prioritize and when to move.

For a deeper look at a specific segment, or a version tailored to a customer meeting, contact Jonathan Custer.

Sources

- Dr. Hayao Nakahara, N.T. Information Ltd: Preliminary Estimate of World PCB Output (March 2025); NTI-100 2024, Tables 2 and 8 (July 2025); NTI Digest, "Thoughts on PCB and Semiconductor" (April 2026), including Top Taiwan PCB Makers in 2025 (Final), Top 20 Organic IC Substrate Makers (November 2025) and Top 25 Automotive PCB Makers in 2024 (August 2025).
- Nakahara, "Tracking Giants: Inside the World's Top PCB Fabricators," PCD&F, 2 September 2025: pcdandf.com
- Custer Contexto Group: Custer Financial Database (September 2026); Custer Composite Rosters (10 September 2026), which reproduce Walt Custer's published composite series and add 2026 quarters from SEC and TWSE filings; Custer Dashboard Earnings Tracker; CCG EMS Master Data (TWSE monthly revenue filings); World PCB Market Data Warehouse (July 2026); Walt Custer's Rev-Eleq and Rev-Oth decks (May 2026).

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