

# Capital Goods

India

Sector View: **Cautious**

NIFTY-50: **22,796**

February 24, 2025

## CG2025 takeaways—taking stock of EMS, renewables, infra and defense space

We hosted 10 companies (two EMS, two renewable, three infra and three defense) at our flagship Chasing Growth 2025 conference and conducted two panel discussions and one speaker session. The key takeaways were as follows: (1) EMS—growth momentum remains strong for most players in the near term, with moderate margin expectations; we see compressors as a potential risk for RAC-focused EMS players such as Amber and PG for FY2026, (2) renewables—large players expect to realize elevated margins in the near term and ALCM to be implemented without any delay, (3) T&D—opportunity pipeline remains robust in the domestic and international markets providing strong visibility, but labor shortage will continue to be a problem in the near to medium term, (4) road sector—focus shifting to BOT projects and TOT monetization, aiding players such as IRB and (5) defense—while order inflow has been muted until 3QFY25, expect inflow to pick up 4QFY25. Companies remain very positive on the industry prospects and believe import substitution will be the key driver.

### EMS—growth momentum intact; RAC business can come under pressure in FY2026, led by compressor shortage

Revenue performance for most companies remains on track, aided by a strong order book. (1) Avalon—continues to guide for a 25%+ revenue growth in the medium term, given successful turnaround of the US business. Margins will likely see continued improvement due to operating leverage since Avalon has the highest gross margin among peers. Despite majority of the revenue coming from the US it does not see any risk from US import tariffs since Avalon has an existing manufacturing presence in the US. (2) PG Electroplast—aims to reach Rs100 bn in revenue by FY2028, while maintaining similar margins and return profile. The company is entering into refrigerator manufacturing and is in discussion with a leading Chinese manufacturer to set up a compressor manufacturing plant in India. Compressor production to commence with 5 mn as the initial capacity expandable to 10 mn. Management has indicated there is ongoing compressor shortage, and although there is enough to support the 2025 summer season, any further shortage might impact 2026

### Renewable energy—near-term solar module and cell demand to remain robust; margins to moderate in medium term; overcapacity after 2028 is a risk

We hosted large listed solar manufacturers Waaree and Premier Energies in CG2025. Both companies expect domestic solar demand to remain robust, with potential demand to reach 45-50 GW by 2026/27. This will likely help manufacturers generate elevated margins until 2027/28. Additionally, management seems confident that the government would not delay ALCM implementation, as IPPs will need ALCM modules only by December 2026 and there will be sufficient supply by then. On the future overcapacity risk, both companies believe that while we will reach supply-demand parity by 2027/28, India will not have a China-like situation of severe overcapacity, but they do believe that as new supply comes in, margins will moderate.

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**EPC—robust pipeline in T&D provides strong near-term visibility**

The opportunity pipeline remains strong for the domestic T&D business, with Rs500 bn of short-term tenders in the pipeline and longer-term pipeline of Rs2.4 tn. Green energy corridor, incremental transmission capex for new thermal power plants and HVDC projects all provide strong growth potential, with only 5-6 key players in the market. Both remain extremely bullish on the international T&D pipeline, driven by Latin America, Africa and the Middle East. KEC and Kalpataru highlighted that despite strong pipeline in T&D there are three problems, i.e., (1) severe labor shortage that can impact the pace of implementation and margins, (2) water business—the government has been slow in disbursing money, which weakened the working capital cycle of the said firms and (3) railway business—remains slow, but they are optimistic on the future metro-led growth. Going forth, both companies expect (1) strong revenue growth, backed by robust order book and (2) margin improvement.

**Road—focusing on BOT projects and TOT monetization**

Due to ballooning debt levels, NHAI has shifted its focus to asset monetization (multiple TOT bundles have been awarded in the past quarter). Furthermore, the pipeline for the TOT project remains robust, with 46 projects having a total length of 2,700 km, which are expected to be monetized over the medium term. BOT projects have also started making a comeback after years of focus on EPC and HAM projects. The NHAI has identified 15 projects worth Rs444 bn, which are expected to be awarded in the coming months (the medium-term pipeline for BOT is ~Rs2 tn—53 projects). In 9MFY25, just two TOT projects have been awarded so far (no wins for IRB); IRB expects a few projects to be awarded over the next three months. Currently, NHAI has identified 33 projects worth ~Rs1 tn, which are expected to be bid out in the next 12-18 months.

**Defense—order inflow has been weak for the year, expect inflows to pick up from 4QFY25**

Paras and Zen Tech's management indicated that the defense order inflow in 9MFY25 has been soft, but they remain hopeful of a pick-up in inflow from 4QFY25. Additionally, they highlighted while the road and rail capex has been flat this quarter, defense continues to be a strong area of focus for the government, which led to an increase in the defense budget this year. Apart from the increase in defense capex, they believe that import substitution is a much larger theme, which will be driving their topline and order book in years to come. Paras—reiterated its guidance of 40-50% growth over the medium term, with slight margin improvement, the company expects strong order inflow in the next few months. Zen Tech—it highlighted that the order inflow has been a struggle this year, but reiterated guidance of achieving Rs9 bn in revenue, with a 35% EBITDA margin in FY2025, the company expects to grow at 50%+ for the next three years due to higher defense spend on simulation and anti-drone systems. Zen recently acquired ARI, which primarily operates in marine simulation, management believes that Zen's experience working for the army, along with ARI strong product offerings, will help it expand to naval simulation in the near term. This will open up a new avenue and will be an additional growth lever.

## Panel Discussion: Paul Ilanghovan, Rajeev Khushu, Ved Mall

Paul Ilanghovan,  
Head  
Operations,  
Kaynes  
Semicon; Rajeev  
Khushu, Ved  
Mall—IESA

### Catalyzing India's semiconductor ecosystem

#### Key takeaways

- ▶ Rajeev mentioned that India's semiconductor ecosystem is supported by:
  - The Government of India's financial support, covering 75% of the capital cost for semiconductor units, with 50% from the central government and 24-25% from state governments.
  - Significant workforce in semiconductor design, with 20% of the world's semiconductor engineers being Indian.
  - Being a large consumer of semiconductors, driven by its growing economy and digital transformation. The country has a robust ecosystem for semiconductor consumption, including mobile phones and data centers.
- ▶ Rajeev believes that the design work in India is not just about cost arbitrage but also involves significant decision-making. Indian engineers are integral to the global semiconductor design process.
- ▶ Paul noted that India is in the process of building its semiconductor ecosystem through the establishment of packaging units. The focus is on developing a comprehensive ecosystem, including fabrication and packaging units, to reduce dependency on imports.
- ▶ Paul highlighted concerns about the talent pool for semiconductor packaging in India, noting that the country lacks sufficient trained professionals in this area. To address this, initiatives are being taken to develop semiconductor curriculum in academic institutions and establish centers of excellence for practical training. He also mentioned collaborations with several IITs and private universities to introduce semiconductor courses and practical training programs.
- ▶ Paul pointed out that while India is making progress in semiconductor packaging, there is still a dependency on other countries for capex and raw materials. Paul explained that the company plans to start with legacy packages and gradually move to mid-segment and advanced packages.
- ▶ Rajeev noted that no country can provide an end-to-end supply chain for semiconductors due to the diverse requirements of raw materials and specialty gases. However, India's growing market and design capabilities make it an attractive destination for global semiconductor players.
- ▶ Ved discussed the challenges faced by deep tech startups in the semiconductor industry, such as the need for extensive knowledge and longer development timelines compared to other tech startups. Rajeev added that the ISA is working on creating use case chips for various applications, which will help startups gain market access and funding.
- ▶ Paul highlighted the challenge of attracting customers to India's nascent semiconductor ecosystem. To address this, companies are focusing on specific products and building confidence in their technology and capabilities. He mentioned ongoing discussions with potential customers to secure allocations and start production, emphasizing the importance of demonstrating technological competence and reliability.
- ▶ Paul detailed Kaynes' strategy to establish a complete ecosystem, including R&D, reliability and development teams, a dedicated test engineering team, and a state-of-the-art reliability and failure analysis facility in Sanand, Gujarat. This facility will cater to various industries, including medical and automotive sectors. He mentioned that Kaynes plans to offer a complete design service, starting with lead frame designs and moving toward advanced PCB and test point designs.
- ▶ Paul discussed the transition from legacy packaging to advanced packaging. Initially, Kaynes will focus on legacy packages like DEVO, then move to mid-segment packages like BGS and flip chips, and eventually to advanced packages like 2.5D and 3D TSVs.
- ▶ Paul acknowledged the challenges in advanced packaging, such as the need for extensive R&D and customer support. Despite these challenges, Kaynes is committed to overcoming them and aims to implement advanced packaging within three years if everything goes well.

- ▶ Rajeev highlighted the need for the Semicon 2.0 policy to incentivize ecosystem partners, including suppliers of specialty chemicals and gases. This policy aims to address the current lack of ecosystem support and ensure a comprehensive supply chain for semiconductor manufacturing in India.
- ▶ Paul mentioned that companies like Tata and Kaynes are already making significant investments in semiconductor packaging and manufacturing, with plans to start production in the near future. He believes that this will help establish India as a key player in the global semiconductor market.
- ▶ Rajeev mentioned that the geopolitical situation is creating opportunities for India, as global customers seek alternatives to certain regions.
- ▶ Rajeev discussed the relevance of different chip sizes for various applications. He mentioned that while India may not focus on sub-three-nanometer chips, there is a significant demand for 28-nanometer chips used in automotive and industrial applications.

## Avalon Technologies Ltd: February 17, 2025

### Key takeaways

#### ► Guidance

- **Revenues:** The company is confident of achieving revenue growth of 22-24% for FY2025, driven by recovery in the US business. The FY2025 guidance implies strong 44% growth in 4Q and sets the stage for a robust FY2026.
    - **Profitability:** Management remains confident of delivering strong margins for the year and reiterated its gross margin guidance of 34-36% for FY2025; this is due to the company, delivering 36.1% gross margin for 9MFY25. In the long term, management expects the gross margins to be in the 33-35% range.
- **Confident of achieving robust future growth:** Management expects Avalon to continue with the robust topline growth on the back of three growth engines.
  - Recovery in the existing US market—due to longstanding customer relationships.
  - New US business—the company is gaining traction in the US and expect a robust order inflow over the next few quarters.
  - Expanding presence in the India market.
- **India business:** The India business continues to see strong traction, driven by the railways, infra and industrial segments. Within the railway segment, the company sees signaling systems and Kavach (train protection system), where it has partnerships with global OEMs, as the key driver of healthy order inflow and revenue. Avalon Technologies is continuously focused on expanding its operations in India and over the medium term, it expects India to contribute 50% of the topline from 42% achieved in 9MFY25.
- **US business:** The US business, which faced significant challenges until 1QFY25, is seeing a strong turnaround. For 9MFY25, US business has grown 27% yoy, despite a 7% decline in 1QFY25. This has been driven by the clean energy business, which has grown 28% yoy for 9MFY25. During the year, Avalon Technologies addressed challenges in the US market by shifting production to India and rationalizing costs, which aided margin recovery. Looking ahead, clean energy (home electrification and hydrogen) would continue to be the key drivers of US growth. Aerospace would also be another growth driver, where the company has a few long-term contracts.
- **Manufacturing footprint:** US manufacturing looks to be on a path to a turnaround—for the last quarter, the US plant contributed 12% to the topline with the net loss narrowing to Rs34 mn in 3QFY25 from Rs140 mn in 1QFY25. Going forward, a strong presence in the US can turn out to be extremely useful, if the current US administration pushes for higher onshoring by increasing import tariffs. In the long term, Avalon targets 15% of revenue from US manufacturing.
- **Order book:** The order book at the end of 3QFY25 stood at Rs15.9 bn (+25% yoy); this was on account of a strong order inflow worth Rs3.9 bn during the quarter. The composition of the order book is approximately 45% India and 55% US, in line with revenues. The company has many customers in the pipeline, who can potentially deliver US\$20-25 mn in revenues.
- **Capacity expansion:** Capex for 3QFY25 and 9MFY25 stood at Rs113 mn and Rs327 mn, respectively. Management projects capex to be between Rs400 and Rs450 mn this year and for the next couple of years. The company aims to be asset-light in nature and maintain an asset turn of 8-10X.
- **Working capital:** Prior to Covid, the company had a working capital cycle of 90 days. The slowdown in US sales and corresponding inventory overhang increased the working capital cycle to 171 days in FY2024. However, a pickup in sales led by a turnaround of the US business has led to improvement in inventory days to 103 (as of Dec 2024). While there was a 15-day qoq increase (150 days versus 135 days) in NWC days due to trade receivables, management has indicated that this is a temporary phenomenon, which will normalize in the short term. Despite the weakness in the current quarter, the company has reiterated its guidance of improving NWC by 10-15 days yoy.

## PG Electroplast Ltd: February 17, 2025

### Key takeaways

- **Revenue:** Management has reiterated its revised guidance of achieving a minimum operating revenue of Rs45.5 bn and Rs5.5 bn from the JV (Goodworth Electronics). This translates into a growth of 86% yoy. The company aims to reach Rs100 bn+ revenue within the next three years (FY2028).
- **Profitability:** The company continues to guide the net profit for the year to Rs2.8 bn, implying a 105% growth yoy from Rs1.4 bn in FY2024. As the revenue scales up, the target is to maintain the current EBITDA margin and RoCE profile.
- ▶ **Backward integration:** As part of the strategy to continue growth and improve profitability, the company plans to backward integrate, starting with compressor assembly. The company is in the advanced level of discussions for compressors with a Chinese player, which can potentially be announced in the near term. According to the agreement, the JV partner will have rights over 50% of the production, with PG having the rest. Production is expected to commence in December 2025, with 5 mn capacity expandable to 10 mn.
- ▶ **Goodworth Electronics:** Goodworth Electronics, a 50-50 JV between PG Electroplast and Jaina India, achieved Rs4.3 bn revenue in 9MFY25. The business is profitable on the EBITDA level, but due to interest and depreciation cost, PAT, as of date, is negative. Management expects the JV to be PAT profitable next year onward, with margins likely at 1-2% in FY2026.
- ▶ **Customer mining was a growth driver of the RAC business (50%+ of the revenue):** For FY2025, the company was able to outperform the industry growth due to market share gain from existing customers. Given PG has a very large existing client base, for FY2025, the focus was more on mining the existing than on adding new customers. According to company estimates, almost 90% of revenue growth came from mining existing customers.
- ▶ **Electronics business:** While the revenue contribution of the segment is low, it is a large focus area for the company. Within the segment, the company manufactures all controllers and motherboards for TVs in-house. To boost growth, the company has also started offering services to outside markets too. Additionally, PG has started offering certain other products from the electronics segment such as security camera and some sound boxes, including where it is seeing good traction. Management expects this segment to become sizable for the company in the medium term.
- ▶ **Cost leadership:** PG Electroplast is focused on controlling opex and capex costs. With 80-85% of revenue driven by the bill of materials, the cost savings are generally shared with the brands. The company is focused on opex cost control, driven by (1) the management of a third-party workforce during the peak and non-peak seasons, (2) the reduction of fixed overheads and (3) the lowering of power costs. On the capex front, having single large facilities, which gives it economies of scale, helps the company differentiate itself versus peers. Overall, the company continues to see contract manufacturers, with economies of scale and manufacturing of other products and components during the off-season, as having a lower cost structure and better return profile on manufacturing versus brands.
- ▶ **Products business:** The products business comprises RACs (IDU, ODU and WU), washing machines (SATL and FATL) and air coolers (window, desert and personal). For 9MFY25, the products business achieved robust growth generating revenues of Rs20.2 bn, a 126% growth yoy. The growth can be further segmented to RAC (+154% yoy growth), washing machines (+49% yoy growth) and air coolers (+127% yoy growth). Management believes the order book and overall visibility for the product division remain very strong, positioning PG toward significantly enhancing its growth trajectory in the product business throughout the financial year
- ▶ **Capacity expansion:** PG will be spending Rs3.7-3.8 bn to build a new integrated unit for manufacturing RAC in Rajasthan, new building in Greater Noida and new building along with further AC capacity expansion in Supa.
- ▶ **Entry into refrigerator:** The company will be entering refrigerator manufacturing in FY2026 and will likely see revenue from FY2027. By FY2028, management expects refrigerators to be a sizeable portion of the products business.

## Waaree Energies: February 17, 2025

### Key takeaways

- ▶ **Domestic solar module/cell demand to remain robust:** Waaree expects domestic solar module demand to be more than 50 GW for FY2026/27, on account of (1) 40 GW from domestic IPPs (~28 GW of AC demand X 1.4 AC to DC conversion factor), (2) 10 GW from rooftop installation and (3) 4.0-4.5 GW from other sources such as solar pump installations. Since module facilities tend to operate at ~60% of utilization, India will need total solar module capacity of 85 GW, and would also similarly need approximately 60 GW of capacity for solar cells (assuming 85-90% utilization) to meet domestic demand. While solar module capacity will be able to cater to the requisite demand, solar cell demand is unlikely to be met for the next couple of years, which will ensure a healthy pricing environment for the solar module/cell manufacturers such as Waaree.
- ▶ **Cell unit economics and pricing:** Currently, cell prices are at elevated levels of US\$14-15 cents/wp, on account of robust demand led by DCR and lack of cell supply. However, the company believes that by end of FY2026, approximately 25-30 GW of cell facilities will come online, which will bring down cell prices to a more sustainable level of US\$12-13 cents/wp, in line with a price of non-China cells. Even then, management expects 40-50% of operating margins, given the cost of manufacturing cells at US\$7.0-7.5 cents/wp.
- ▶ **Strong order book and pipeline:** Waaree's current order book, including wholly owned subsidiary WRTL stands at 26.5 GW equating to Rs500 bn, 54% of the order book comprises exports, while the rest is for the domestic market. The order book is approximately ~3.5X TTM sales, offering strong visibility in the medium term. Additionally, the company expects a pipeline of 50-70 GW from India, which will be executed over the next few years; this will provide another lever to medium-term topline growth.
- ▶ **Order cancellation not a big risk:** Despite a large export order book, Waaree expects a low risk of order cancellation since exports customers typically pay 15-20% in advance, which can be encashed in case of cancellation.
- ▶ **Enel Acquisition:** Waaree recently announced the acquisition of Enel Green Power India for Rs7.9 bn. Management has indicated that the primary rationale behind this acquisition is to benefit from the 2.5 GW pipeline. While IPPs are generally asset heavy, the company will take steps to ensure that the business will remain asset light.
- ▶ **Entry into Hydrogen electrolyzer and BESS:** The company is looking to expand wallet share among its customers and has committed more than Rs20 bn on various initiatives such as setting up a hydrogen electrolyzer and BESS manufacturing. Hydrogen electrolyzer and BESS facilities are expected to commission in the next 15-18 months and start generating revenues by FY2027/28. Given the secular shift toward RTC, BESS is expected to witness strong demand, which will fare well for the company in the medium term. However, given the BESS technology is quickly evolving, the company is only setting up 3.5 GW of total capacity against 21 GW of module capacity that it will achieve in the next couple of years.
- ▶ **Capacity expansion:**
  - Cell facility: 1.4 GW MonoPERC line has started commercial production. 4 GW TopCON facility will commence production in March/April 2025.
  - US facility: The 1.6 GW Houston facility has already started production with an aim to fulfill US orders.
  - Orissa 6 GW integrated facility: Capacity expansion is on track with commission expected in 2027, in line with earlier disclosures.

## Panel Discussion: Manoj Kumar Upadhyay, Chiranjeev Saluja, Anmol Jaggi

Founder,  
Chairman & MD,  
ACME Group;  
MD, Premier  
Energies;  
Chairman & MD,  
Gensol  
Engineering

### India's green revolution: aspirations, targets and realities

#### Key takeaways

- ▶ Mr Upadhyay noted that the government targets for renewable capacity are ambitious, aiming for 500 GW. The current pace of capacity addition is moderate, around 15 GW annually. This year, close to 25-26 GW has been achieved up to December, with an expectation to reach 30-34 GW by March. He is optimistic of achieving a 400-450 GW of capacity over the next five years.
- ▶ Mr Jaggi noted that the industry is investing money and growing aggressively. He believes that Make in India is doing well.
- ▶ Mr Upadhyay stated that the tender capacity is significantly higher than the execution capacity, with around 50 GW tendered and 30 GW expected to be built this year. Many tenders are not pure tenders but include round-the-clock and hybrid tenders, making 1 MW equivalent to 2-2.5 MW.
- ▶ Mr Saluja believes that the manufacturing side is scaling up well, with module manufacturing crossing 100 GW and solar cell capacity at 20 GW, with an additional 30-35 GW expected in the next 18-24 months. The industry is investing aggressively, supported by the Government of India's policies and non-tariff barriers.
- ▶ Mr Upadhyay noted that the main challenge is the seasonal storage capability of batteries, which is currently limited. There is a need for a mix of storage solutions, including pumped hydro storage, to stabilize the grid.
- ▶ Mr Jaggi opined that hydro capacity creation is tough in India and that the progress is not meeting expectations. He suggested that the success of solar is due to a short gestation period, while hydro projects do not get completed before 10 years.
- ▶ He also highlighted that the execution of projects in the Middle East involves extensive planning and shorter execution periods compared to India, where execution starts early but takes longer due to change orders and specifications.
  - Mr Saluja noted that there is no clear understanding of what the Trump administration wants regarding the IRA.
  - While the implementation of IRA has been paused, it is unclear which segments of the IRA have been paused. However, despite the pause on IRA, domestic US solar demand will remain strong.
  - Saluja mentioned that the company will largely remain unimpacted since it has a strong presence in India, with less than 3% of revenues coming from US exports.
  - He shared that the company had partnered with a customer to set up a 1.2 GW cell manufacturing plant in the US. However, due to the uncertainty around tariffs, they have put this investment on hold until they receive more information on what is being repaired or changed.
- ▶ Mr Saluja also discussed the comparison with Chinese manufacturers, noting that prices in China are often artificially low due to oversupply and other factors. This makes it challenging to compare prices directly with those outside China.
- ▶ Mr Saluja highlighted that the government has taken quick actions to address potential power deficits by ordering more coal capacity before the Lok Sabha elections when there was a concern about India becoming power deficient. He pointed out that new investments in coal could be an expensive mistake due to the high fixed depreciation costs. He emphasized that renewable energy, particularly solar and wind, is becoming more cost-effective and is taking over the energy mix.
- ▶ He also discussed the potential for decentralized energy solutions, such as rooftop solar, to complement the centralized grid. He mentioned that while decentralized solutions can provide stability and reduce reliance on coal, they also present challenges in terms of efficiency and competition with state-wide energy systems.



- ▶ Mr Upadhyay emphasized the importance of using transmission lines more effectively. He mentioned that the government has announced plans to release significant transmission capacity in the next few years, which will necessitate more efficient use of these lines.
- ▶ He also discussed the concept of dispatchable power, which refers to the ability to provide power on demand. He explained that renewable energy sources, when combined with battery storage, can offer dispatchable power that is superior to traditional coal-based power. He acknowledged that while battery storage is effective for short-term needs, it currently faces challenges in providing seasonal storage. He mentioned that pumped storage hydro (PSH) can offer seasonal storage solutions, which are necessary for handling variations in energy demand due to environmental factors.

## Premier Energies: February 18, 2025

### Key takeaways

- ▶ **Potential impact of change in US administration remains unclear:** Premier believes it remains unclear as to what the new US administration will do with the IRA. While the IRA has been paused at the moment, management remains unsure of which incentives within the IRA are impacted. However, despite all this uncertainty, US demand will remain strong, since solar energy is the cheapest form of energy.
- ▶ **Solar module at 100 GW capacity, solar cell to reach 50 GW+ in the next 2.5-3 years:** Management believes that solar manufacturing is scaling up very well, with module manufacturing crossing 100 GW and solar cell capacity at 20 GW. Additionally, it is expected that 30-35 GW of solar cell capacity will be added in the next 2.5-3 years, leading to potential supply-demand parity by 2030. The company attributes the heavy expansion to government support, non-tariff barriers and a strong demand environment.
- ▶ **Solar demand has multiple levers:** The company shared that solar module demand, which was 32 GWdc in CY2024, is likely to increase to 40-45 GWdc in the next couple of years, led by 20-25 GW demand from IPPs, 10 GW from rooftop and 7-8 GW from KUSUM and CPSU. In addition, the company believes that another driver is corporates moving toward a net zero target, which will generate annual demand in the range of 5-6 GW. Additionally, 40-45 GW projected demand does not take into account two more drivers—(1) implementation of green hydrogen, which will create cumulative demand of 100 GW over 5-7 years and (2) exports to the US (while the US has installed module manufacturing capacity of 50 GW, current cell capacity is less than 5 GW, implying a huge future demand for solar cells).
- ▶ **Capacity utilization:** Premier was able to reach industry-leading operating efficiency of 96% for cell and 74% for module. Management has attributed this to the strength of the operating team and stabilization of the cell line. Going forth, the company is confident of maintaining the high utilization levels for the stabilized module and cell facilities.
- ▶ **Order book:** Premier's order book stands at Rs69.5 bn as of Dec 2024, implying a robust order inflow over 9MFY25. Solar cell has been the key driver of the increase in orders, with the order book contribution increasing to 36% in 3QFY25. The whole order book is executable in the next 12-18 months, implying strong near-term revenue visibility and robust domestic demand for solar cells, which would enable the company to generate elevated margins.
- ▶ **Capacity expansion:**
  - **1 GW TOPCon cell and module line:** Management has indicated that the 1 GW line will commission in 1QFY26, a slight delay from the earlier estimate of 4QFY25. Expects the cell line to stabilize within three months, faster than earlier, driven by previous learnings and experiences.
  - **4 GW TOPCon cell and module line:** The line's expansion remains well on track, with commissioning expected by 1QFY27.
  - **Aluminum and wafer manufacturing facility:** As per management, both expansions are well on track and are expected to be commissioned by FY2026. Aluminum frame capacity will be 36,000 ton p.a., which will meet the company's complete captive needs and increase the share of total value-addition and margins.

- ▶ **Entry into battery manufacturing:** The company has indicated it currently has no plans to enter battery manufacturing despite increasing adoption on account of multiple expansion plans such as (1) a 4 GW integrated cell and module plant and (2) expansion into wafer and aluminum manufacturing. Overall, the company sees a lot of scope to expand within the solar supply chain as of today and does not want to stretch management too thin by announcing too many expansions. However, if the company does enter BESS manufacturing, it will be either of two ways—(1) manufacturing of cells or (2) conversion of cells into battery packs.
- ▶ **Competitiveness against China:** Management shared that while China offers solar modules and cells at the most competitive prices globally, current China prices are not sustainable, which has led to many Chinese manufacturers posting huge losses. Outside China, the company believes that India is the most competitive in solar manufacturing and would continue to reduce the gap with China as the company further increases its backward integration into wafer, ingot and polysilicon.
- ▶ **HJT versus TopCON:** The company expects TopCON would continue to be the dominant solar cell technology, led by the following—(1) HJT has a much higher initial capex cost and (2) HJT needs a higher amount of silver for production, which puts solar manufacturers more at risk to commodity price fluctuation. Additionally, the efficiency gap that HJT historically had with TopCON has significantly reduced as more investment is being done to improve its efficiency. According to the company, estimates close to 80% of all capacity is moving toward TopCON while only 10% of global capacity will be HJT.

## Speaker Session: Puneet Kaura

MD & CEO,  
Samtel Avionics

### Evolution of India's aerospace and defense industry—making a mark in the global ecosystem

#### Key takeaways

- ▶ Mr Kaura noted that India is the fourth-largest military spender globally; almost 28% of the government budget capital is allocated toward defense procurement.
- ▶ He noted that India's current share in the global A&D market (US\$750 bn) is approximately 1%.
- ▶ He stated that India's defense exports increased at a 46% CAGR over FY2017-24, driven by various government initiatives to reduce import dependency. He highlighted that DFP 2020 (mandating 50% Indian content for defense production) has been a key driver in the same.
- ▶ The key challenges in India's defense sector are (1) high import dependency (35% of capital requirements), (2) technology gaps and (3) high gestation periods, among others.
- ▶ Meanwhile, China+1 is also playing out in global defense procurement, with a number of countries increasingly sourcing from India.
- ▶ Mr Kaura suggested that Indian companies are gaining trust globally. He shared a personal anecdote on trying to sell a high-end system to a Southeast Asian Air Force, which initially preferred European products but eventually decided to buy from India after seeing the quality.
- ▶ **Defense capital outlay.** Mr Kaura believes that the current growth rate in government defense capital outlay (growing at 9% CAGR over the last 5 years) is inadequate, given India's threat perception. He stated that the industry believes that the defense budget will be needed to increase to 2.5% of GDP. Currently, it has seen a modest increase from 1.8% to 1.9%.
- ▶ **Shifting ecosystems.** Mr Kaura noted the potential shift in India's defense procurement from Russia to the US in light of the recent news of India potentially acquiring F-35s from the US. He believes that India will need to work on certain aspects of the deal if it is to take complete advantage of the budding technology partnership.
  - He highlighted the complexities involved in such transitions, including the need to develop new manufacturing and maintenance ecosystems.
  - He emphasized that larger and longer-term orders are crucial for building a robust ecosystem. For example, instead of placing small orders, a more substantial and consistent order would help develop the necessary infrastructure and capabilities.
  - He provided an example of the Rafale deal, where India initially bought 36 aircraft but later considered additional purchases. They suggested that a larger initial order would have been more beneficial for developing the ecosystem.
  - He pointed out that creating a robust ecosystem through substantial orders would lead to the development of skills, jobs, and capabilities within the country. He suggested that spreading out the procurement over several years while maintaining a consistent order flow would help manage budgets and ensure the development of a sustainable ecosystem.
- ▶ Mr Kaura talked about exploring new domains and opportunities, such as commercial space with companies like Airbus and Boeing. He noted that these companies are increasingly looking to source systems from India, which presents new opportunities for growth.
- ▶ He provided an example of a new opportunity involving a sensor for obstacle avoidance, which is crucial for the emerging market of air taxis. These taxis require systems that allow them to land in compressed environments safely. He mentioned that this opportunity is part of a broader trend toward urban air mobility, which includes smaller planes and air taxis designed to make commuting within cities easier.
- ▶ He highlighted the importance of collaborating with global players to develop new technologies and systems. He mentioned that the company is in discussions with multiple companies to explore such opportunities.

- ▶ He discussed the current developments in the component ecosystem in India.
  - **Chip production.** He mentioned that the first chip production in India is expected to start in June, with more projects in the pipeline. This development is seen as a significant step toward building a robust component ecosystem in the country.
  - **Reducing import dependency.** The production of chips and other components in India is expected to reduce the dependency on imported components. He expressed optimism that this will not only meet domestic needs but also create opportunities for exports.
  - **Challenges with current component supply.** He highlighted the challenges faced due to the current dependency on imported components. They mentioned that there are shortages and delays, which can be time-consuming and impact program deliveries.
  - **Role of industry.** He emphasized that the onus is on industry players like themselves to develop local capabilities and support the growth of the component ecosystem in India. He mentioned that players such as Samtel needs to take proactive steps to create these capabilities.
- ▶ Mr Kaura was optimistic that with India's GDP rising from US\$4 tn to US\$5 tn and subsequently to US\$10 tn and with defense budget gradually rising to 2.5% of GDP, the defense budget can reach US\$100 bn. The potential capital outlay will help in creating a lot of opportunities for the Indian defense manufacturing sector. At the same time, he expects a steady increase in competition.

## Kalpataru Projects International Ltd: February 19, 2025

### Key takeaways

- ▶ **Guidance:** Management has reiterated its FY2025 guidance of 13% versus initial guidance of 15-20%, largely due to slower-than-expected execution in the water segment. Delays in collections from the state government have made the company moderate its execution expectation in this segment. The company is targeting 15-20% yoy growth in 4QFY25, with PBT margins around 5%.
- ▶ **Strong order book offering near-term revenue visibility:** The company witnessed strong inflow for the year at Rs202 bn (+12% yoy), taking its order book to Rs614 bn and book to bill of ~3X, implying strong revenue visibility in coming years.
- ▶ **T&D and B&F dominated order inflow:** KPIL order inflow saw continued momentum, driven by T&D and B&F segments. KPIL has won an order worth Rs202 bn in 9MFY25, implying the company is on track to achieve its annual guidance of Rs230 bn+. 80-90% of the order inflow has been from the T&D and B&F segments and the near-term pipeline continues to be driven by (1) domestic T&D—green energy corridors and HVDC projects from Power Grid Corporation, (2) buildings and factories—driven by residential real estate and (3) urban infra— driven by metro and airport orders.
- ▶ **Divestment of non-core assets:** KPIL in 2QFY25 signed a bidding agreement with Actis Atlantic Holdings Limited (Actis) for the sale of Vindhyaachal Expressway Ltd (VEPL) for an enterprise value of Rs7.75 bn. On top of this, KPIL also expects Rs1.5 bn from the sale of the Indore real estate asset, implying a total of Rs9 bn+ in cash inflow for the company over the medium term. The company expects the Indore real estate project to receive its OC (occupancy certificate) in the next few days, which would result in cash inflow by June 2025.
- ▶ **Promoter pledge:** Promoter pledge was further reduced to 8.2% versus 8.7% in 2QFY25, with a further promoter pledge release indicated on the earnings call. During 3QFY25, KPIL's parent real estate business also received approval for its Rs15.9 bn IPO, which could lead to a future reduction in pledges. Divestment of other non-core assets would only happen over the medium term.
- ▶ **Impact of dollar depreciation on the business:** Management has indicated that KPIL is a net exporter; hence, any depreciation in rupee will be net positive for them. Additionally, the company maintains a hedge ratio of 90%+, hence any adverse movement in forex wouldn't impact it.
- ▶ **Labor market remains a challenge:** The company shared that steel prices have cooled off recently and cement prices have remained stable for the past 18-24 months, which has been positive; however, labor remains to be a big challenge for the company. KPIL is facing difficulty in finding labor at current wages and is now building in higher labor costs in their contracts.
- ▶ **Capital expenditure to reduce going forward:** Historically, KPIL has incurred significant capex (Rs27 bn in the past three years) to position itself for long-term growth. Since now the capacity expansion has been done, the company would not need as much capex and will be reducing it over the next three years, which will help generate strong free cash flows.
- ▶ **Railway segment:** Management is not very positive on the segment; high competitive intensity and adverse working capital conditions have made the company selective while bidding for railway projects. Going forth, the focus will be on the domestic metro business and international railway projects.
- ▶ **Oil and gas:** It sees strong growth opportunities in the Middle East led by Aramco; however, domestic opportunities remain modest.

## KEC International Ltd: February 20, 2025

### Key takeaways

- ▶ **Guidance—downward revision of growth and profitability forecast for the year.**
  - **Revenue:** Management expects revenue growth for the year to be near 12-14%, due to weak topline growth of only 9% for 9MFY25. Civil (water), oil & gas and railways have been the key disappointments in FY2025.
  - **Profitability:** Management has indicated that this year EBITDA margin will be in the ~7% range versus earlier guidance of 7.5% EBITDA margin. Downward revision takes into account the weak EBITDA margin of 6.4% for 9MFY25, led by pressure from the non-T&D segments.
  - **FY2026 guidance:** The company has given 15% revenue growth guidance for FY2026, in line with FY2025. This is on the back of robust order inflow for the year led by the revival of the T&D segment.
- ▶ **Profitability:** Management expects margins to see a substantial improvement, led by the following:
  - Higher contribution of the T&D business, which generates 9-10% margins
  - Improvement in the civil segment's margin profile, as low-margin legacy orders are nearing completion
  - Incrementally, new orders booked in railways are higher margin, with a lower working capital cycle; this is also expected to support KEC's profitability.
- ▶ **T&D opportunity:** The opportunity pipeline remains strong for the domestic T&D business with Rs500 bn of short-term tenders in the pipeline and longer-term pipeline of Rs2.4 tn. Green energy corridor, incremental transmission capex for new thermal power plants as well as HVDC projects all provide strong growth potential with only 5-6 key players in the market. The company also remains extremely bullish on the international T&D pipeline, driven by the Middle Eastern market.
- ▶ **Order inflows:** KEC received 9MYTD inflows of Rs221 bn (L-1 of Rs40 bn), which was stronger than the initial guidance of Rs250 bn for the full year. Strong order inflow was primarily driven by the T&D segment, which has witnessed a 10% yoy jump in order book contribution to 59% in 3QFY25. In addition to a Rs374 bn order book, the company is L1 for orders worth Rs40 bn. Combined with L1, the total order book stands at Rs410 bn+, ~2X TTM sales.
- ▶ **Civil:** Growth has been relatively slow in the segment, which the company attributes to an ongoing labor shortage and deliberate moderation in the progress of water projects, primarily due to delayed payments. However, the company expects this segment to do well in the next fiscal due to order inflow spanning across industrial, residential and defense sectors from large clients.
- ▶ **Railway:** The railway business, which has been renamed to transportation business, declined ~30% last quarter, but the segment has secured new orders in the conventional technology-enabled areas of Metros and other emerging areas. These include a significant order in the prestigious train collision avoidance system in TCAS segment under Kavach, which aims to enhance the safety of Indian Railways with world-class technology. The company remains cautious in its approach to order intake in this sector, considering the margin profile, working capital scenario and execution complexities of this business.
- ▶ **Margins:** KEC's margins have been impacted for the past couple of years, driven by higher commodity prices, Covid disruptions and execution challenges. With most legacy projects nearing completion and its incremental order wins driven by the T&D segment that has historically seen higher margins, the company expects margins to continue to improve sequentially.
- ▶ **Working capital:** Working capital should see continued improvement, driven by the collection of Afghanistan receivables, a mix shift away from the railway segment and the resolution of legacy issues in a few T&D projects. Overall, reducing debt levels and improving the working capital cycle should help reduce interest costs further to sub-3% of sales from 3.2% in 3QFY25.

## IRB Infrastructure Developers Ltd: February 20, 2025

### Key takeaways

- ▶ The road sector remains a key focus area for the government with a medium-term plan (till 2030) to double the length of national highways to 2 lakh kms from the current 1+ lakh kms. However, the company expects the ordering to shift toward BOT projects from HAM/EPC over the past couple of years. The company is also keen on participating in the upcoming TOT projects (operational projects monetized by NHAI) via its private Invt.
- ▶ **NHAI focus shifting toward BOT and TOT monetization:** NHAI's focus is shifting toward BOT and TOT monetization. Due to ballooning debt levels, NHAI has shifted its focus toward asset monetization (multiple TOT bundles have been awarded in the last quarter). IRB, with a strong balance sheet, has won multiple TOT projects and has a 38% share as of FY2024. However, in 9MFY25, just two TOT projects have been awarded so far (no wins for IRB); IRB expects a few projects to be awarded over the next three months. Currently, NHAI has identified 33 projects worth ~Rs1 tn, which are expected to be bid out in the next 12-18 months.
- ▶ **Rs444 bn BOT pipeline provides strong near-term visibility for orders (awarding yet to start):** BOT projects have started making a comeback after years of focus on EPC and HAM projects, as 100% of the construction cost is borne by the developer in this. The NHAI has identified 15 projects worth Rs444 bn, which are expected to be awarded in the coming months (the medium-term pipeline for BOT is ~Rs2 tn—expected to be ordered over the medium term—53 projects). Competitive intensity is expected to be lower than HAM as fewer players are expected to participate due to the capital-intensive nature of BOT projects. Competition is expected to be primarily among 5 to 6 players, although EPC players in participation with financial partners could also bid for these projects.
- ▶ **Growth levers for the business:** The company has primarily 2 levers of growth—(1) expansion of the current asset base by executing more BOT and TOT projects and (2) yearly revision of toll, which generally ranges 4-5%.
- ▶ **View on interest and debt:** The company believes that interest rates have peaked and given the company has gross debt upwards of Rs300 bn, a 1% reduction in interest rate can significantly improve profitability.
- ▶ **Reason for change in accounting policy from 3QFY25:** The company changed the accounting policy for private InVIT from 3QFY25; this was taken on confirmation from BDO India, which has been their auditor for the past three years and the valuation of InVIT is done by KPMG. Management has indicated that this is in line with global standards, hence the shift. There was a 30-40% impact on PAT due to this change in 3QFY25 and will continue going forward. Private InVIT will be valued on a quarterly basis and the same will reflect in P&L. Additionally, the company has maintained that it follows a conservative approach in the valuation and keeps a 10% margin of safety.
- ▶ **Competitive intensity:** According to management, currently competitive intensity isn't very high with 5-6 players trying to get BOT/TOT projects, while in EPC, the competitive intensity has significantly increased with dozens of competitors. Going forward, they believe that competitive intensity might increase, but since the market size is very large, there will be ample opportunities for everyone.
- ▶ The company has a total Rs119 bn worth claims under arbitration, which are under various stages of arbitration and the company could see additional favorable arbitral awards.



## Paras Defence: February 20, 2025

Paras Defence & Space Technologies offers a wide range of products and solutions for defense and space applications. With a focus on the defense and space sector, Paras has two main verticals, namely Optics & Optronics Systems & Defence Engineering (comprising Defence Electronics, EMP Protection Solutions and Heavy Engineering). With over 40+ years of sustained business growth in the area of defense and space engineering, Paras is involved in Technologies for Rocket & Missiles, Space & Space Research, Naval Systems, Land & Armored Vehicles, Electronic Warfare & Surveillance, Electromagnetic Shielding, to name a few. Along with this, through its subsidiaries, Paras is involved in technologies such as drones, RF and microwave, anti-drone systems, EO/IR systems for avionic platforms and quantum communication, among others.

### Key takeaways

- ▶ **Optics and optronics systems:** Paras started with optical components and today it is the only company in the Indian manufacturing optical components for space. It has three main focus areas for optics and optronics segment: (1) Submarine periscope, (2) hyperspectral imaging system for space, (3) red dot reflex sight (India's leading point and shoot device—for which it has got a Rs3 bn+ order from L&T) and (4) EO/IR (electro-optical/infra-red) systems.
- ▶ **Submarine periscope:** Paras has been delivering one in every quarter (each periscope is worth Rs350-550 mn and the company expects to deliver one periscope each for the next few quarters). Each submarine requires two periscopes. With India having 20 submarines and additional ones in the pipeline, there is a potential for orders worth 80 periscopes, including new and refurbished ones. Refurbishment costs are 80% of the cost of a new periscope. In addition to periscopes, Paras has additionally added ESM radars on the top of the periscope, which has further increased the price of the periscope by Rs150-200 mn. Furthermore, Paras is in talks with Mitsubishi to supply the submarine periscopes to them. Overall, periscopes will have a net margin of 25-30% with EBITDA margins being higher.
- ▶ **Space Segment:** The company is incrementally increasing its presence in the space segment by leveraging its strength in optics. The hyperspectral imaging camera is one of the key products that the company supplies to the space sector and an order could be ~Rs200 mn in size.
- ▶ **Defence Engineering:** The defense engineering vertical for Paras contains three main focus areas: (1) Defense electronics, (2) EMP protection solutions and (3) Heavy engineering. Defense engineering is one of the areas of growth for the Saras aircraft, which is being manufactured by Hindustan Aeronautics where Paras supplies avionic suite. India is expected to manufacture 133 (3+15+115) aircraft and Paras' contribution is ~Rs200 mn per aircraft. The second focus area is electronic magnetic pulse protection solutions, where Paras is the only company in the space and has an order funnel of Rs3.5 bn currently.
- ▶ **Anti-Drone Systems:** Through its subsidiary Paras Anti Drone Systems, Paras Defence is looking to gain a foothold in anti-drone system with an aim to be a leader by 2026-27. Paras is spending Rs30-40 mn every year on R&D team, which comprises engineers and PhDs. The focus area is to build cutting-edge technology, including radars, software-defined radios, phased arrays, advanced antennas and more. The company expects potential order funnel for anti-drone to reach US\$500+ mn in the next few years.
- ▶ **Guidance and growth outlook:** Paras aims to achieve revenue growth of 40-50% over the medium term and slightly better profitability compared to previous years. The company has maintained that it aims to have an order book of ~2X of revenues. Among newer areas of growth, anti-drone systems, additional wallet share in the space segment and quantum technologies will be the key focus areas for Paras. In the longer term, the company expects the revenue mix to be 60:40 Optics:Defence Engineering.

## Zen Technologies: February 20, 2025

Zen Technologies is among the select few companies that operate in the defense training and simulation and counter-unmanned aerial systems segments. The company has indigenous design, development and manufacturing capabilities; its proprietary training platform architecture is key and an integral part of the value proposition, which has allowed it to build a strong domestic and international presence. The company primarily has three product lines—(1) training and simulation, consisting of live ranges, live simulation, virtual and constructive simulation, and operational equipment, (2) counter-drone systems—this consists of six sub-components, i.e., RF-based drone detector (RFDD), radar detection, video-based drone identification and tracking, data fusion and command center, drone RF jammer, and hard kill interface and (3) autonomous weapons and surveillance systems.

The company is in a very high growth stage, increasing at a CAGR of ~100% in terms of revenue from operations over FY2021-24. As of December 31, 2024, the company's order book stands at Rs8.17 bn, ~1X of revenue run rate.

### Key takeaways from interaction with management

- ▶ **IP player in India Defense Ecosystem:** Zen Technologies is at the forefront of India's defense R&D, with a 30-year legacy of developing training and simulation products. To date, company has filed 159 patents globally and currently boasts of 40+ product portfolio.
- ▶ **Asset-light operating model:** R&D and engineering are done in-house, but the asset-heavy part of the business—component manufacturing—is outsourced. Final assembly is also done by Zen along with post-sales customer support. The company offers a warranty of two years, after which it receives an AMC contract, which ranges 8-11% of equipment price.
- ▶ **Robust growth outlook:** The company has guided on achieving revenue of Rs9 bn in FY2025, with an expected CAGR of 50% over the next three years, driven by a large order pipeline. The long-term view is to get into various other simulation segments and offer training and simulation to the Navy and Air Force, with an aim to become the leading player as Zen currently is in the Army. Additionally, the company wants to become a global player, with a one-stop solution for all anti-drone solutions.
- ▶ **Order inflow has been weak for the year, but expect to see strong order inflow from 4Q:** Order inflow has been weak in 9MFY25, with the current order book at Rs8.17 bn. 3Q was very weak for the company, as there were no new orders, but the company expects order inflow to resume from 4QFY25 and is expecting Rs8 bn of orders in the next couple of quarters.
- ▶ **Recent acquisition:** Zen recently made a large acquisition in the marine simulation space, namely ARI. Zen expects ARI to achieve Rs1 bn of revenue for the year with EBITDA margins ranging 18-19% and PAT in the range of 13-14%. However, Zen expects that soon it will be able to help ARI expand to naval simulation, which is a much larger market, given Zen's expertise in hardware and experience in serving armed forces. Additionally, the company believes ARI EBITDA margins have scope to expand led by operating efficiencies and economies of scale, which will bring margins closer to 35% at which Zen operates.
- ▶ **Expansion into the international market:** The company has had a presence in the US, but it has not yet done any sales in the region. However, now with the changing political landscape, the strategy is to double down on the US, with a focus on the North American and South American markets. The focus is to export simulation products and anti-drone systems, with greater emphasis on training and simulation, given the company's deep capabilities in the space.
- ▶ **Strong demand for anti-drone system:** The acquisition of AI Turing done in early 2024 is doing very well. AI Turing, a remote control weapon station, is quickly becoming the most sought-after equipment in various armies. The company estimates that AI Turing, remote control weapons and surveillance systems have a TAM of US\$1 bn.
- ▶ **No change in margin guidance, despite weakness in 3Q:** The operating margin saw pressure in 3QFY25, with the EBITDA margin dropping to 29%, primarily due to higher-than-expected weakness in the topline. Despite the recent dip, the company aims to achieve a 35% EBITDA and 25% PAT margin for FY2025.

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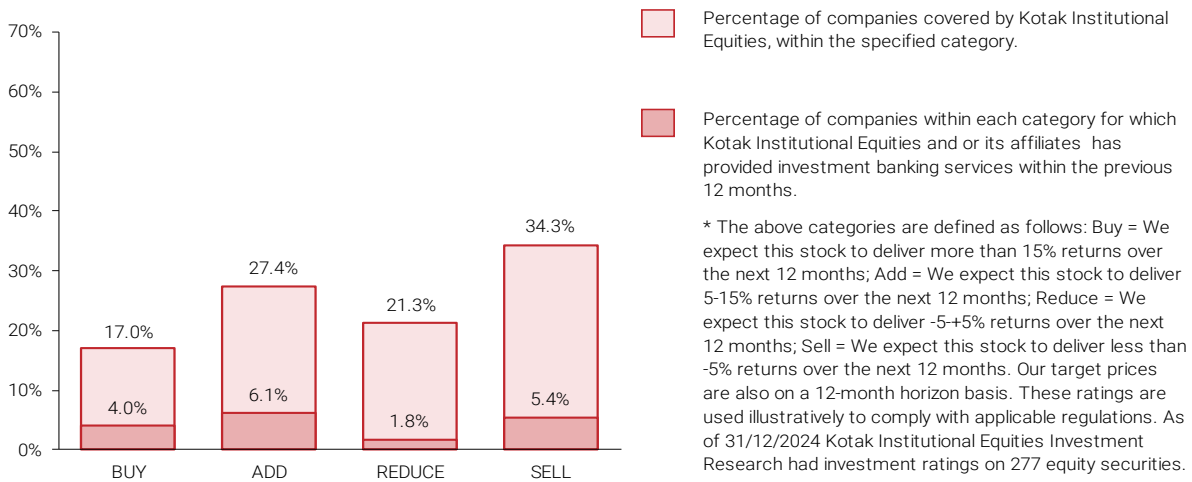
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