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HOW ARE INDONESIAN GOVERNMENT POLICIES DRIVING A MASS MOVEMENT TOWARD GREEN MOBILITY?

Covering perspectives from the policies catered toward sustainable transportation, further analyzing the growth opportunities within the EV space

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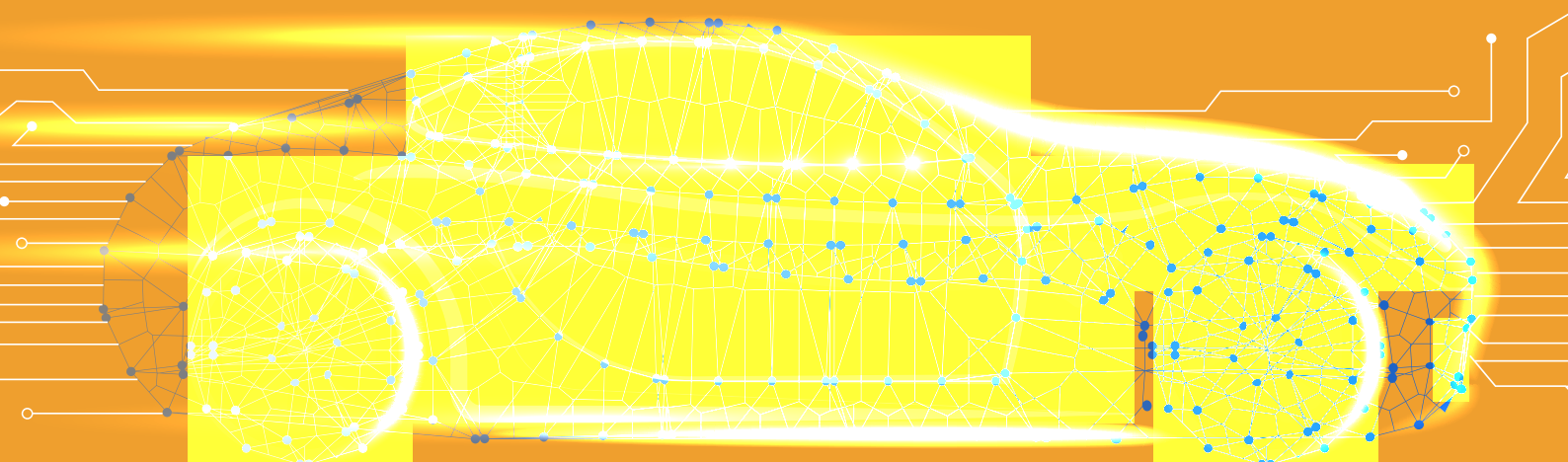
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Aiming towards robust Electric Vehicle (EV) market conditions – Introduction

The global automotive industry is marching towards an EV revolution, and Indonesia is no exception in the foray. Burgeoning fossil fuel prices, high GHG emissions, low Air Quality Index create a stern need for eco-friendly transportation.

The electric vehicle (EV) industry development is part of the key national agenda alignment for Indonesia, enfolded by a presidential decree, and tenacious EV targets. The country aims to be the lead EV manufacturing powerhouse in SEA region, with an ambition to reach 25% annual sales penetration quantifying 2.5 Mn annual production capacity of electric motorcycles (e2W) and 600K electric cars on the road by the end of 2030. Expectations are also high as the e-bike market share is forecasted to grow at a CAGR of 20.96% to reach \$816.2 Mn by 2025, indicating not only the need to convert the vehicles in the country but also the need to build up an industry around electric mobility —several projects for battery factories, EV car manufacturing is currently underway.

The listed ambitions are likely to contribute towards Indonesia's fiscal and socio-economic development by attracting early EV adopters and manufacturers that can aid in curbing reliance on oil imports, ICE vehicle usage, etc. to further develop EV by creating an enabling environment.

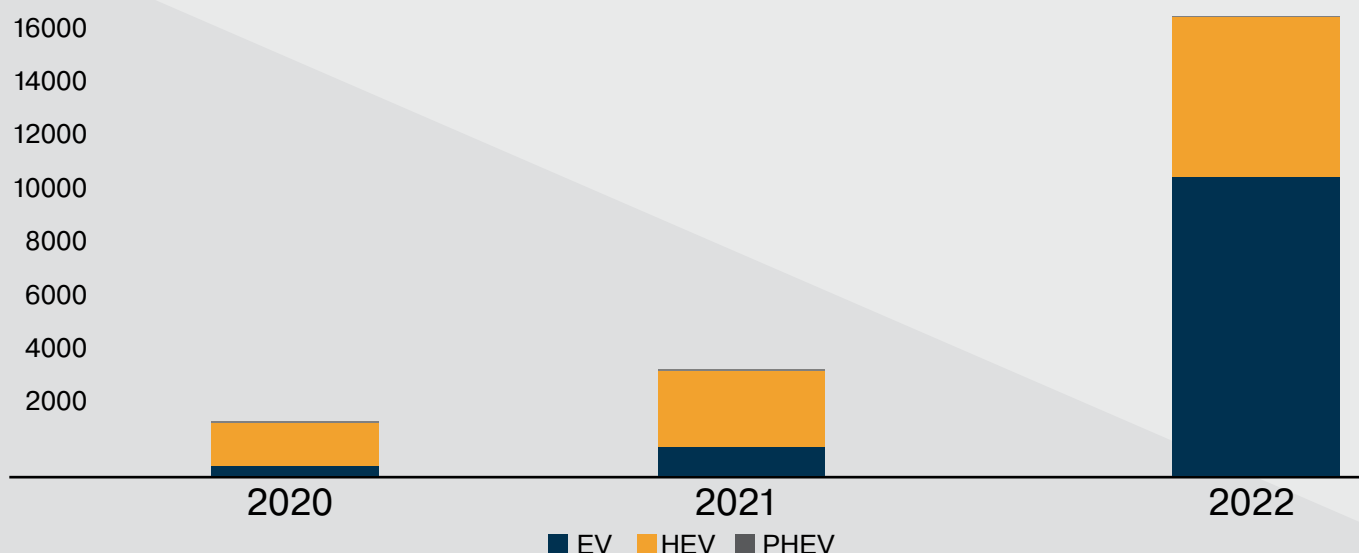


Market Insights – Current State

Diagnostics focusing on EV Cars

The transition to EVs has become a key part of Indonesia's national agenda, stipulated through the National Masterplan for Industry (RIPIN) 2015-2035. According to Gaikindo, the current market landscape is still in its initial stages. In terms of total sales of low-carbon emitting vehicles, it sold 15,437 units in 2022, an increase from 3,193 the previous year. Delving deeper and focusing on the number of battery-based electric cars (BEVs) sold domestically, there were 10,327 units sold in 2022, skyrocketing by 1,407.5% compared to 2021, when there were only 685 units sold in the market. The hegemony on sales figures was achieved by Wuling Air EV penetration, which managed to sell 6,859 units during 2022, eradicating the former year's dominant player, Hyundai. Despite a 14x increase in EV sales alone, the EV segment has only achieved 1% of total sales when compared to ICE, where > 1 million gasoline cars were sold that year. A major barrier to EV uptake is a lack of public charging infrastructure. The dominant form of transportation ownership still lies with motorcycles, but even there the sales figures did not achieve a massive trend; the total electric motorcycle sales in 2022 were only about 24K units, or 0.46% of 2021 motorcycle sales. To further view how the country encourages and has a promising policy that stimulates users for mass adoption, see the upcoming paragraphs.

Exhibit 1: EV sales comparison with other Low-Carbon Emission vehicles



Source: Ipsos Strategy3 Analysis, Association of Indonesian Motor Vehicle Industries (Gaikindo)

Indonesia's EV maturity model assessment – Future state diagnostics

Indonesian President Joko Widodo signed Presidential Regulation Number 55 in August 2019, aligning with the Acceleration Program for EVs. The regulation was enacted as a legal umbrella for EV development, creating a domino effect for several ministries to start EV projects by setting ambitious targets. The current EV industry is at a relatively infant stage, with significant growth potential faster than expected, the rapid penetration is visible from EV Cars and then towards eBikes, sales figures in 2022 denote a 14 times increase in EV cars and around double for eBikes, faster than any other SEA peers.

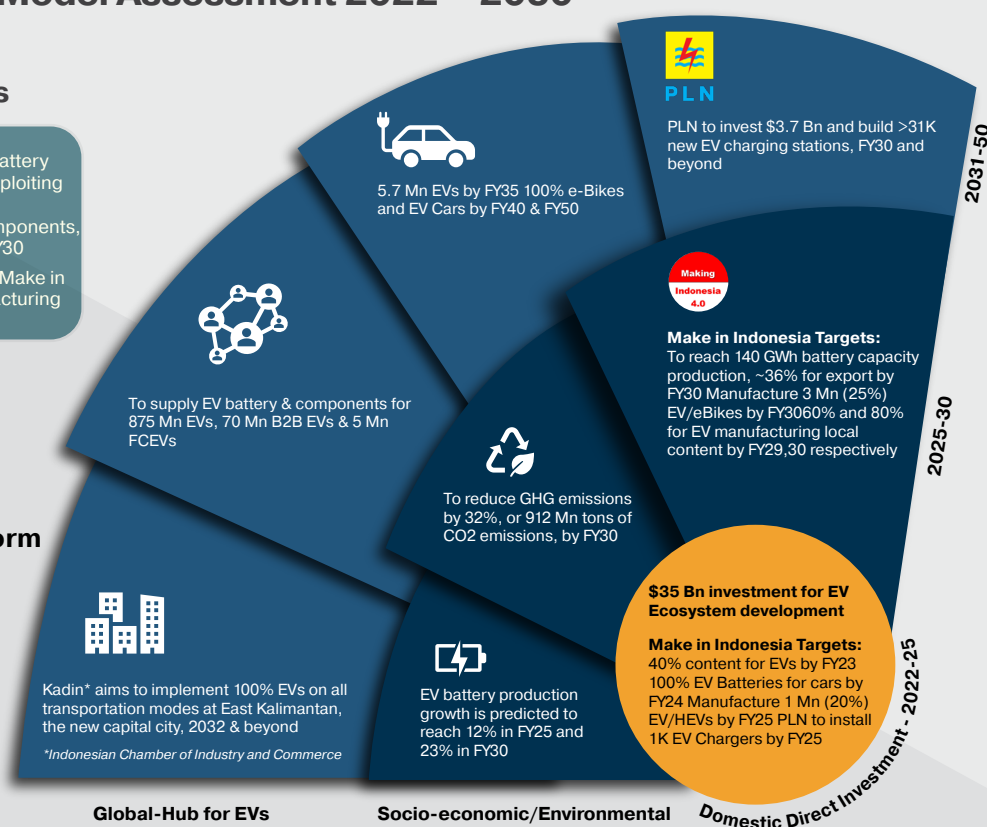
Exhibit 2: EV Maturity Model Assessment 2022 – 2050

Key Influencing parameters



- Establishing E2E global hub in battery manufacturing space by best exploiting country's natural resources
- Adding ~450K jobs in parts, components, and vehicle manufacturing by FY30
- Presidential Decree to enhance Make in Indonesia and Industrial Manufacturing 4.0 initiative

- Wave I – Infancy/Transform**
- Wave II – Mass Adoption**
- Wave III – Matured**















Source: Ipsos Strategy3 Analysis

Ipsos Strategy3 Maturity model assessment showcases the holistic development strategies that will transform the EV Industry potential into accelerated industry development in Indonesia starting from 2030 and beyond. A key question that still remains is if the EV mass adoption stage can be achieved in Indonesia. Given the current scenario of ICE vehicle groups and less friendly EV policies it cannot. To achieve this feat, EV policies must be refined and tuned by fostering friendly business and consumer practices, along with the Ministry of Transportation, by implementing best practices from EV market leaders like Norway and China that can benefit consumers, particularly focusing on providing incentives, increased subsidies, tax rebates, and augmenting charging infrastructures to attract the public for mass EV adoption.

Key existing and planned government policies that intrigues users to adopt EV transformation

Explore the government's policy measures that have been implemented in the last couple of years and portray how they could support the EV expansion plan in the region.

Exhibit 3: Key Policies Benefitting B2B and B2C Segments

Benefit Segment	Policy Cluster	Policy Details	Ministries and Boards in Charge
B2B	Tax Holiday – Corporate Income Tax Concession	EV Business with a capital investment of IDR 500 Bn will receive a 100% cut, and IDR 100–499 Bn eligible for 50% rebate	 Ministry of Finance
	Manufacturers Tax Incentives	EV manufacturers will benefit from import duty exemption for machinery and materials used in EVs	 Ministry of Finance
	Global Hub for EV and its components – Manufacturing Expansion Plan	Implemented export ban for nickel to meet domestic battery industries' demand and further develop a circular model to boost resource and revenue utilization	 Ministry of Energy & Mineral Resources  Ministry of Trade
	Tax Discount – R&D Activities	Government Regulation No 153/PMK.010/2020 impose a tax deduction of 300% for research and development ("R&D") activities conducted in Indonesia	 Presidential Decree
	Manufacturer Financial Incentives	Reduced the credit risk weight (ATMR) to 50% vs. 100% for other industries*, additionally can enjoy maximum credit limit exemption, based on BUMN guarantee	 Financial Services Authority
B2C	Presidential Decree - User Tax Incentives	Government Regulation No. 73/2019 on Luxury Tax for Automotive Products to be 0% for EVs and FCEVs who buy the vehicle, meeting >40% localization rate	 Ministry of Finance
	Priority Access	Infrastructure plans in laying dedicated green lanes on public roads path to a greener future and better investments for EVs	 Investment Coordinating Board
	Road Restrictions Immunity	Free from odd-even (Ganjil-Genap) vehicle restriction policy in Jakarta, along with parking fee discounts	 Presidential Decree
	Domestic Charging Infrastructure – Electricity Tariff Discounts	Subsidized tariffs for EV users can enjoy up to 30% reduction in bill payments	 Ministry of Energy & Mineral Resources  PLN
	Incentivized Purchase Benefits	4W EV purchasers may obtain IDR 80 Mn (~\$5,130), if manufactured in Indonesia ²² 2W e-Bike purchasers can enjoy cash incentives, amounting to IDR 7 Mn (~\$461.8)	 Coordinating Ministry For Economic Affairs
	Down payment - Financial Incentives	Reduced the credit risk weight (ATMR) to 50% for EV consumers vs. 100% for other industries*	 Financial Services Authority

Source: Ipsos Strategy3 Analysis, Respective Ministries, and Government Regulatory Bodies

These incumbent policies implemented by various ministries and boards support the government's program to accelerate the battery-based electric vehicle (KBLBB) industry by distributing multiple incentives attached to B2B and B2C segments.



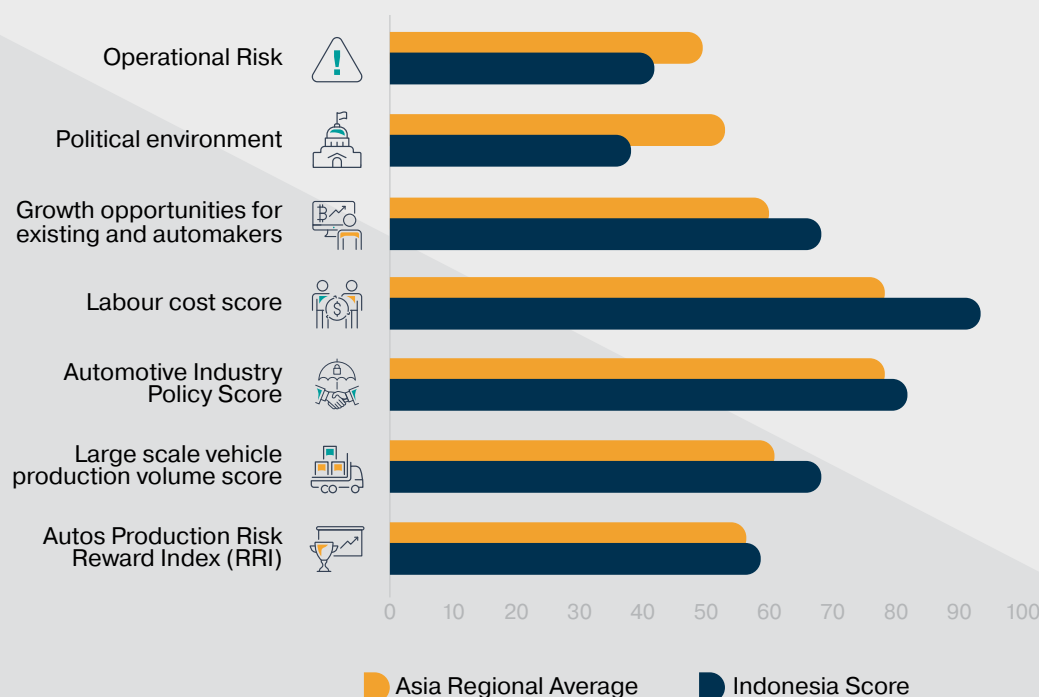
How can Domestic Direct Investments (DDI) nurture close ties between the government and EV players, and accelerate market transition?

In general, DDI and FDI stimulate economic growth, create jobs, and encourage innovation and technology; therefore, any advancing economy like Indonesia will foster a friendly investment landscape to target key OEMs and automakers belligerently to achieve EV targets. Be it both, factors that lure investors include diversified natural resources (including nickel and others), competitive labor costs, recent policy liberalization towards a market-based economy (privatization), generous tax incentives to investors, etc., which send the right signal for investors to consider the investment opportunity in Indonesia.

Domestic Direct Investment (DDI), during the period, the DDI for Transportation, Warehouse, and Telecommunication alone received \$2.6 Bn paving the way for enhancing the Indonesian market growth rather than relying on FDI.

Another key reason to study FDI pull is their Automotive Industrial Competitiveness released by Fitch Ratings, which ranked them as one of the eight most attractive destinations for automakers to begin or maintain vehicle manufacturing operations in the Asian region (out of 13) and 21st globally.

Exhibit 4: Indonesia & Asia Region - Autos Production Risk/Reward Scores



Source: Ipsos Strategy3 Analysis, Fitch Rating Solutions - Autos Production Risk/Reward Index

According to the Score, Indonesia provides attractive growth opportunities for new/existing automakers, achieving a score of 67.9, scoring higher than the Asia average regional score of 59.6, also benefits from its large-scale vehicle production volumes, scoring 66.1 on this indicator, above the Asia regional average of 58.7. The Fitch Solutions rating places Indonesia ahead across all the parameters except for an uncertain long-term political environment, scoring 37.5, as well as high operational risks, scoring 41.1 relative to its regional peers. The government must create a long-term friendly political environment and reduce the operational risk to open highly prospective business development scenarios from foreign OEMs/Automakers, by doing this, it will result in capturing EV development and new business opportunities without losing them to other Asian counterparts.

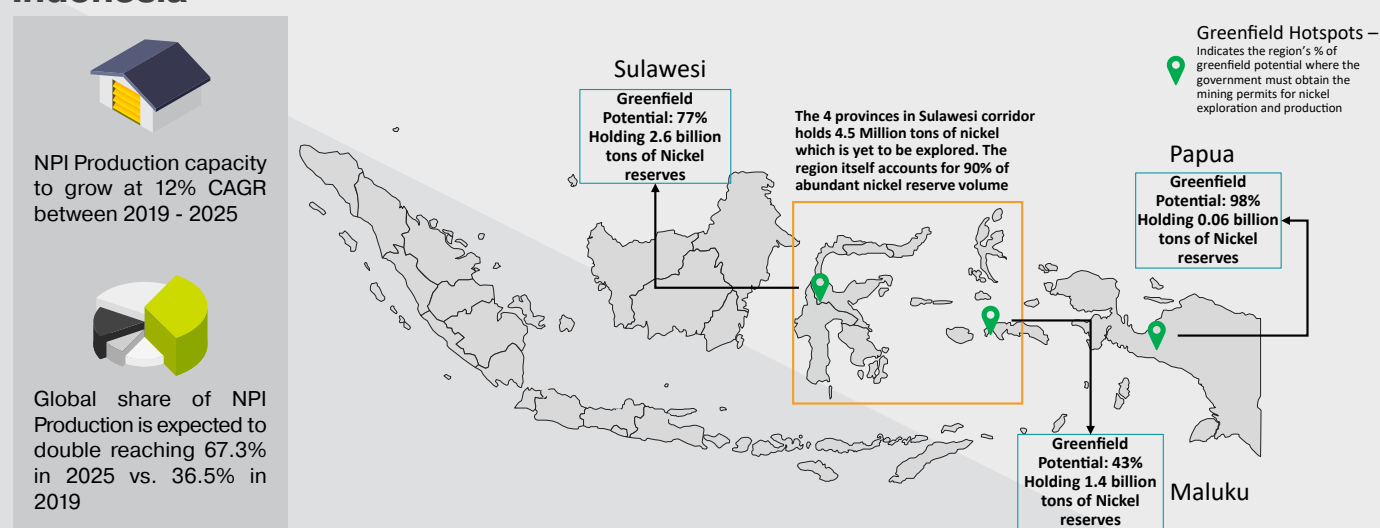


Long-term view in setting up a global hub for EV battery manufacturing supply chain by optimizing the viable use of Nickel

Indonesia is endowed with an abundance of natural resources like Nickel, Copper Bauxite, Cobalt, Zinc, and Manganese. Nickel is the main component for EV batteries, this gives Indonesia confidence to venture into the global battery manufacturing space, as it has a prestigious status by holding World's #1 nickel reservoir embedded within the country, equal to ~24% of the world's total nickel reserves. By leveraging the right resources, DDI/FDI investments, and technology adoption, the country can become a global supply chain hub for EV batteries by producing and exporting the same, across the globe. Meanwhile, the estimated reserves of ~2.8 Bn tons require an increase in modifying factors such as ease of access, licensing (environmental permits), and economics (price) to increase the technical reserves and become proven. Thus, it can meet the needs of refining facilities for approximately 42.67 years.

Indonesia is prepared to benefit from rising nickel demand, which is expected to grow at a 7.9% CAGR from 2021-2024, and large multi-billion-dollar projects are expected to begin construction in 2025-2040. Indonesia has 292 IUP (Izin Usaha Pertambangan) (mining permits) as of 2020, with 12 active operating smelters and 4 KK (contracts of work). Most of the concessions are in Sulawesi, as the island hosts most of the national nickel reserves, facilitates a considerable amount of nickel greenfield opportunity, as the government can streamline and arrange further foreign investment in the building of new smelters, refineries, and the EV battery manufacturing industry.

Exhibit 5: Potential Nickel Development and Investment Opportunities in Indonesia



The government plans to strengthen the national upstream nickel industry through

- Adding 19 new operational nickel smelters by FY23
- Constructing battery manufacturing plants for nickel cobalt mangan (NCM) and nickel cobalt aluminium (NCA) type batteries for national EV development
- Indonesia is expected to overtake China in nickel processing by 2025, (particularly related to EV battery grade)

Source: Ipsos Strategy3 Analysis, Ministry of Energy and Mineral Resources, Peluang Investasi Nikel di Indonesia

Ipsos Strategy3 View – Promoting key value propositions within the EV space that will result in a paradigm shift

The push for EV is strictly aligned with President Jokowi's goal to eradicate low-value-added exports in favor of higher-value-added finished export products from Indonesia across the globe. Despite, the myriad sectors to be benefitted from the shift to EVs, we strongly expect and recommend mining and manufacturing sector to benefit most, and investors can pour in DDI/FDI investments during the initial stages of EV adoption, due to immense reserves of nickel and other raw materials which is an essential component in EV battery manufacturing.

Indonesia can step into the mass EV adoption stage starting in 2030 and it will become the next uprising EV powerhouse globally by achieving a break-even point in EV battery production costs with its promising FDIs and the essence of its strong ties with Singapore, Japan, South Korea, and China.

The government regulations must tend to focus on EV segment-based development for mass adoption, mainly to eradicate the subsidized fuel program, as it acts as a disincentive to EV adoption. The government had to spend nearly \$44 Bn in 2022 alone to keep local gasoline prices low, with each reduction in subsidies sparking widespread protests.

We recommend the government to revise and adapt best practices from EV market leaders like Norway and China on a yearly basis to support everyone involved in EV adoption for sustainable transportation in Indonesia, since the region is still in its infancy with the EV movement.

Nevertheless, while looking at the greener stage and a path to face the real road, Electrifying the transportation sector could boost GDP by IDR 400–500 trillion by 2030 in the accelerated scenario, with the driving force being localized manufacturing and supply chains.



Key Contributors



Joseph Kristofel

Executive Director, Ipsos Strategy3



joseph.kristofel@ipsos.com



+62 856-1068-315



Joshua Jacob

Engagement Manager, Ipsos Strategy3



joshua.jacob@ipsos.com



+62 812-8436-3262

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