



RGF ASIAN INTELLIGENCE

Telecommunications, Media & Technology
Outlook 2019

Industry movements and hiring trends

CONTENTS



04



09



26



31

Introduction	03
Marketing & Advertising Insights	04
Information Technology and Services Insights	09
Computer Software Insights	16
Telecommunications Insights	21
Internet Insights	26
Computer and Network Security Insights	31
Conclusion	36
References & Methodology	37

INTRODUCTION

Innovation and Regulation in Store for the TMT Industry

Asia's telecommunications, media and technology (TMT) industry is undergoing swift change. While some markets, such as Mainland China and Taiwan, experience an economic slowdown due to ongoing trade wars and the looming threat of tariffs, other markets are watching their TMT sectors boom.

This is especially true for India, where spending on information technology is projected to grow by nearly 7% in 2019¹, and in emerging markets in the region, where digitalisation has been fuelled by rapid smartphone adoption, making a huge impact on economies and workforces. In fact, the region's digital economy is expected to triple in size by 2025² and markets like Vietnam, Indonesia and Malaysia are witnessing increased foreign investment in sectors such as telecommunications, computer hardware, and internet.

Telecommunications remains a strong sector for the region. Japan, South Korea and the U.S. lead deployment for 5G networks globally³, and the markets in Indonesia, Vietnam and India are all expected to grow exponentially. Though lucrative, the telecommunications sector is highly competitive, and both disruption and increased regulation due to data and cybersecurity concerns could impact the industry.

The widespread digitalisation of Asia as a whole is also impacting how media is consumed. In Singapore, mobile advertising accounts for nearly 60% of advertising revenue⁴, and in Hong Kong, mobile advertising revenue surpassed offline revenue for the first time in 2018⁵. Meanwhile, media consumption in India grew at a CAGR of 10%, according to India Brand Equity Foundation, twice as much as the growth in Mainland China.

The influence of digital consumption is reflected in the sector's hiring trends across the region. Employers participating in our "Talent in Asia" survey were overwhelming positive about growth opportunities, with 75% saying they are certain their industry will grow. However, the talent shortage is particularly worrisome for this sector – there is extremely high demand, but not enough talent to fill available roles. Many employers are looking to expand their internal recruitment team in order to tackle this hiring challenge, and governments across the region are offering grants to both citizens and employers in order to assist them with the cost of upskilling.

In this report, we have focused on talent trends in seven key sectors of the TMT industry: marketing & advertising, computer hardware, computer software, telecommunications, internet, information technology & services, and computer & network security. We hope this report can be used as a helpful, educational resource for HR teams and business leaders that educates them about the opportunities and challenges that exist in Asia's exciting, but rapidly changing TMT industry.

THE TOP SECTORS IN TMT BY TALENT

13 million

overall talent pool size as visible online



INFORMATION TECHNOLOGY AND SERVICES

51% (6.6 million)



COMPUTER GAMES

30% (1.6 million)



COMPUTER SOFTWARE

23% (3 million)



TELECOMMUNICATIONS

11% (1.4 million)



INTERNET

11% (1.4 million)

MARKETING & ADVERTISEMENT

THE POWER OF DIGITAL AT SCALE

Marketing and advertising are still big business – even if the ways in which marketing and advertising are deployed are changing. Global advertising spend is projected to surpass US\$560 billion in 2019, with North America being the largest market, followed by Asia Pacific and Western Europe. Mainland China, specifically, is credited with contributing 80% of the ad spend growth in 2018, thanks to massive online campaigns by Alibaba, Tencent Holdings and Baidu⁶.

Internet advertising was one of the only media that grew by double-digit figures in 2018, seeing a surge of 12%, and with a projection of growing nearly 5% of total global ad spend in 2019, as per Zenith's Advertising Expenditure Forecasts. What's more, internet ad spend is expected to hit approximately US\$330 billion in 2021, accounting for almost half of global advertising expenditures⁷.

The rise of digital advertising coincides with increased international connectivity and the rapid adoption of smartphone usage, especially in emerging nations. As more people are connected to the internet and social media via smartphones, consumption of online media has naturally increased – and advertisers big and small have followed, working to localise campaigns to reach all segments of their audience more effectively and directly.

TOP PLAYERS FOR MARKETING & ADVERTISING

The rankings include total revenue of a company's other business beyond the subject sector

- 1  WPP plc
- 2  Omnicom Group Inc.
- 3  Hakuhodo DY Holdings Inc.
- 4  Publicis Groupe S.A.
- 5  The Interpublic Group of Companies, Inc.
- 6  Dentsu Inc.
- 7  Hakuhodo Inc.
- 8  JCDecaux S.A.
- 9  BlueFocus Communication Group Co., Ltd
- 10  CIR Compagnie Industriali Riunite S.p.A

INDUSTRY TRENDS

Though the major trend in the marketing & advertising sector is in the increased influence of digital ads, which are able to target and reach specific audience segments at scale, there is also a growing need to connect with customers as individuals.

Additionally, the rise of internet ads has disrupted the traditional marketing & advertising model as platforms have rolled out self-serve tools that make it possible – and easy – for anyone to create and deploy ad campaigns.

That said, the nature of online advertising is ever-changing as technology and consumer expectations change.

Video and OTT Advertising

With more eyes on mobile devices, more people are watching online videos – from independently created content to professionally produced web series to live-streamed events.

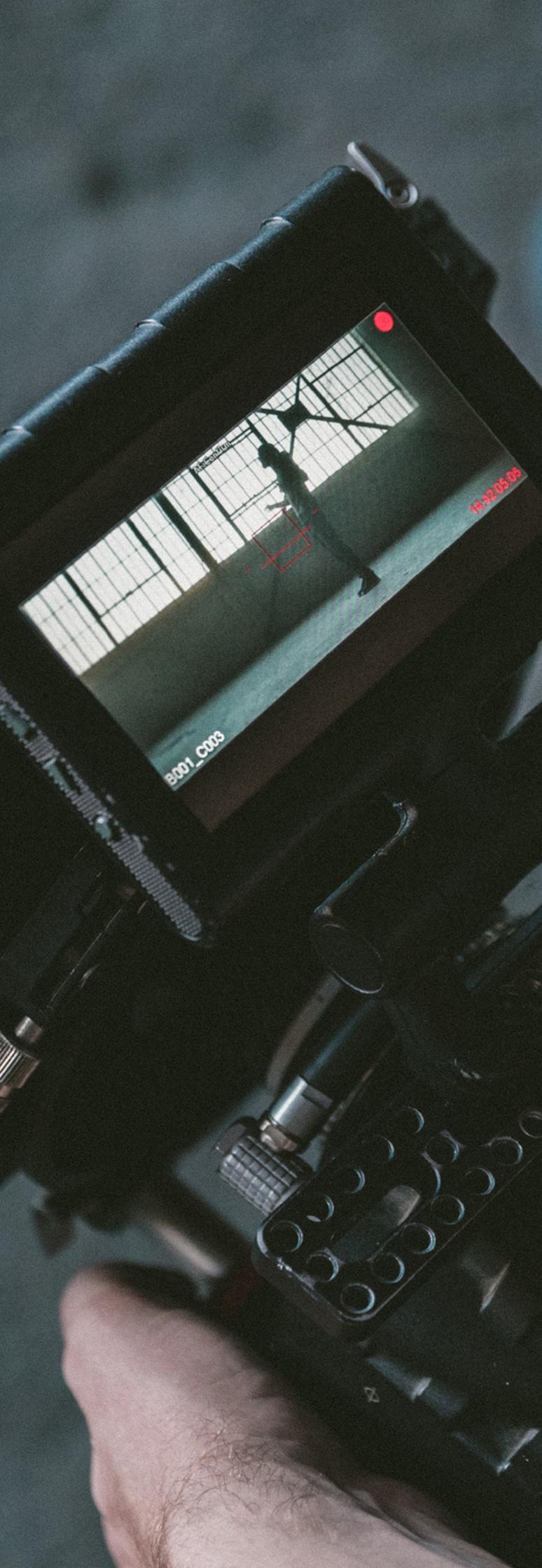
As these video platforms have been monetised, they've proven to be lucrative advertising channels. In 2018, video ads accounted for nearly 30% of digital ad sales growth, just slightly less than social media ad sales, which came in at 33%⁸. However, roughly half of social media ads on platforms Facebook, Twitter and Snapchat are in video format, a fact that underscores the importance of video for online advertising consumption⁹.

In addition to video ads, online streaming video services are also attracting advertisers. Though technically considered television ads, over-the-top (OTT) television advertisements account for almost 30% of the television audience, but only 3% of television ad budgets. Even so, OTT ads grew by 54% in 2018¹⁰ – and with the dominance of streaming services such as Hulu, Netflix and Roku, and more subscription-based streaming services being introduced from television networks to studio movies, as well as social media tools such as IGTV and YouTube TV, it's likely that advertising spend in these areas will grow.

“

**ROUGHLY HALF OF
SOCIAL MEDIA ADS ON
PLATFORMS FACEBOOK,
TWITTER AND SNAPCHAT
ARE IN VIDEO FORMAT**





Small business advertising

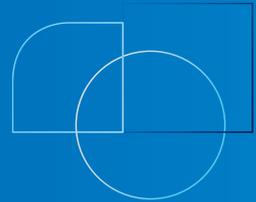
With more eyes on mobile devices, more people are watching online videos – from independently created content to professionally produced web series to live-streamed events.

An interesting outcome of marketing and advertising industry disruption via social media ads is more small businesses are embracing internet advertising. Behemoths such as Google and Facebook have introduced easy-to-use advertising tools to help small businesses create and manage advertising campaigns, cutting out the need for an advertising agency. It's a savvy move – these tools enable more businesses to advertise their services, target their specific audiences on lucrative channels and increase conversion, and brings in more revenue for the platforms¹¹.

Localisation

As international or regional brands have looked to engage with their audience in more personal, intimate ways, many major advertising agencies have begun working with smaller agencies that are local to specific locations in order to craft campaigns that are localised to that specific location's audience.

For example, if Coca-Cola wants to launch a new campaign in Southeast Asia – an incredibly diverse region, both linguistically and culturally – the main agency for the brand might partner with individual agencies in Thailand, Vietnam and Indonesia in order to localise the campaign to best suit the consumers in those locations while still keeping the branding and messaging seamless¹².

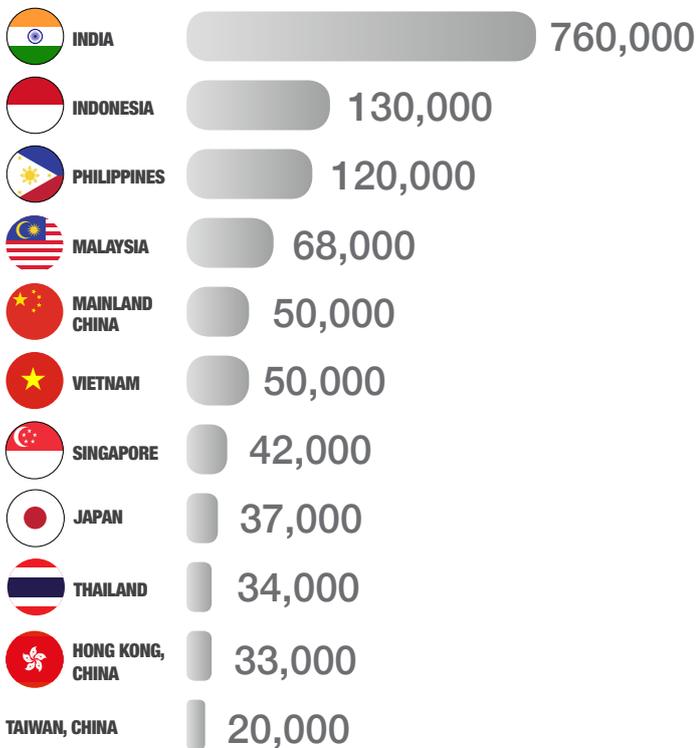


HIRING TRENDS

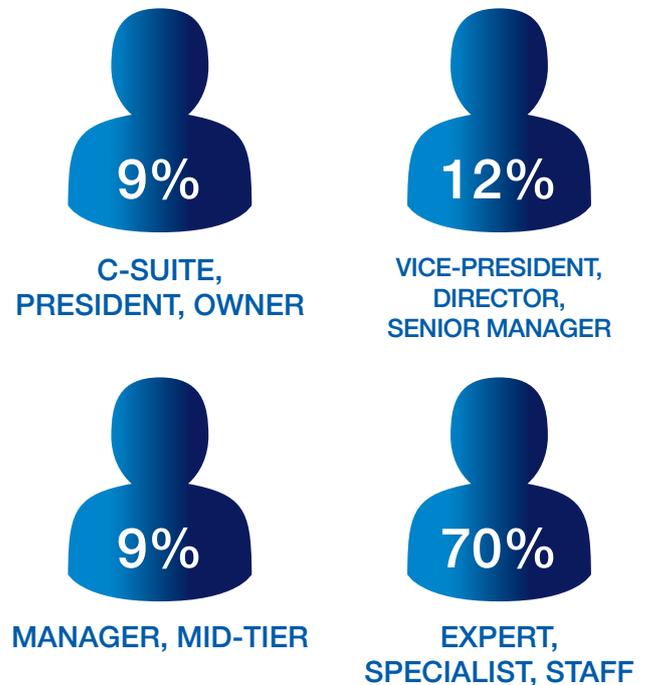
The marketing and advertising industry is one that is growing exponentially, especially in Southeast Asia, which leads online media consumption. Throughout the region, marketing and advertising employers will be expanding, and looking especially for talent with skills in digital marketing and data analytics.



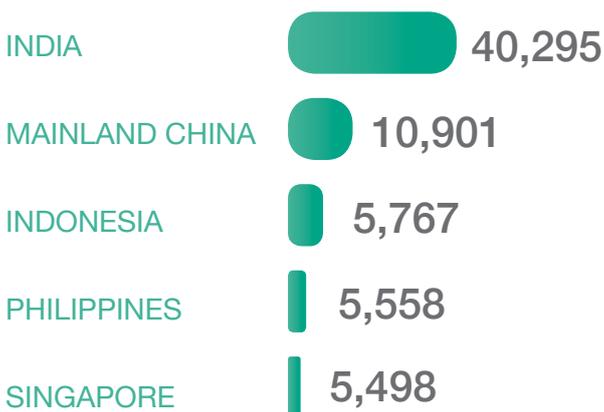
TOTAL LABOUR POPULATION BY MARKET *AS VISIBLE ONLINE



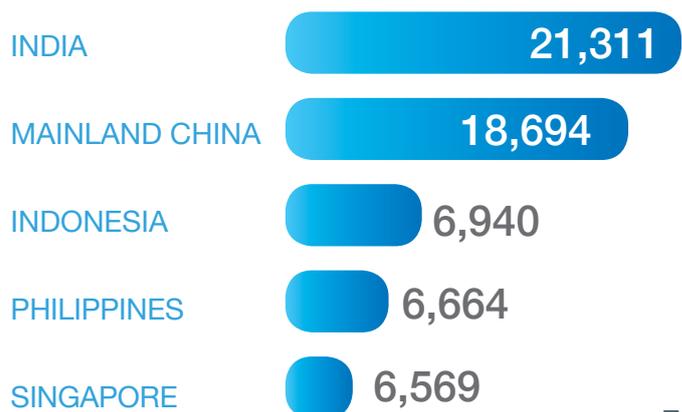
LABOUR DISTRIBUTION BY LEVEL



TALENT IN THE INDUSTRY WHO CHANGED JOBS IN THE LAST ONE YEAR (BY LABOUR POPULATION)



TALENT IN THE INDUSTRY WHO ARE ACTIVELY LOOKING FOR A JOB CHANGE (BY LABOUR POPULATION)



THE IMPACT OF SOCIAL MEDIA ON DIGITAL ADVERTISING IN MAINLAND CHINA



Mainland China's social media landscape is one of the most competitive markets in the marketing and advertising sector, going well beyond WeChat and Tiktok and changing every day. Because of this rapid pace, there are three skills that I think employees need: sense of user experience or customer services; social media tool management; and creative skills.

Talent looking to enter this sector must have a comprehensive knowledge of digital platforms and how to use leverage them best to deliver marketing strategies, need to know how to close

gaps between customer perception and business goals as well as how to handle interactions with customers in order to keep them loyal to the platform, and be able to copywrite and visually execute content suitable for various social media platforms.

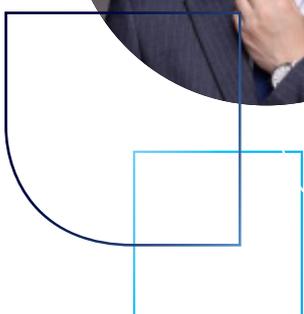
Overall, the Chinese social media industry is incredibly dynamic, with business rising and falling at an extremely fast pace. All the candidates have to improve they are agile and able to adapt to the competitive market.



JEFF YANG

Director

RGF Professional Recruitment China





INFORMATION TECHNOLOGY & SERVICES

CONSTANT DISRUPTION AND INNOVATION CONTINUES

Information technology & services is a vast sector, comprising an array of markets and services. Honing in on web portals, social networking services, specialised information sites and online travel services provides a snapshot of the opportunities and challenges facing the wider sector: the number of users is growing – which means ad revenue is growing – but disruption is common and data privacy issues are increasingly a concern.

The web portal market, which includes both horizontal and vertical sites, generates revenue from advertisements, usually through a performance-based advertising model or on a cost-per-click basis. Because the internet advertising market is expected to grow exponentially, so, too, should the web portal market, which is led by Google, Yahoo! and Microsoft, though the ad business driven by Facebook, Amazon and Alibaba may outpace the others soon¹³.

Though the specialised information sites market – better known as classified ads – is the smallest of the digital ad categories, it is valued at an impressive US\$18.2 billion. The biggest perk of online classified ads is that it's a low-cost option, which allows sellers to earn more from their sales. Though the current largest market for classified ads is the U.S., Mainland China's market share has been increasing, rising from 23% in 2016 to 30% in 2018, thanks to increased mobile penetration and the rising popularity of e-commerce.

As for social media networking, these constantly evolving, constantly disruptive platforms are increasing their revenue opportunities through data-based marketing and advertising solutions. However, with more attention placed on how the SNS market is using its users' personal data, these platforms are revamping their data policies, algorithms and cybersecurity measures to provide users with more transparent information regarding how their data is used and with more control over what types of data they allow to be shared. Though SNS platforms have been under increased scrutiny, combined revenue from advertisements, user purchases and data-sharing partnerships is forecasted to reach just over US\$98 million in 2019, and is expected to grow to a market volume of approximately US\$188 million by 2023¹⁴.

Similarly, the online travel services market is a lucrative one – it was valued at nearly US\$765 billion in 2017, and is expected to generate US\$2 billion by 2026¹⁵. The largest travel market has historically been North America, but Asia Pacific has recently become the global leader for digital travel, recording sales of over US\$215 billion in 2018, a gain of 21% year-on-year¹⁶.

TOP PLAYERS FOR WEB PORTAL

The rankings include total revenue of a company's other business beyond the subject sector

- 1  Alphabet Inc.
- 2  Verizon Communications Inc.
- 3  Microsoft Corporation
- 4  Facebook, Inc.
- 5  Baidu, Inc.

TOP PLAYERS FOR SPECIALISED INFORMATION SITES

The rankings include total revenue of a company's other business beyond the subject sector

- 1  Recruit Holdings Co., Ltd
- 2  Google Asia Pacific Pte Ltd
- 3  Meituan-Dianping
- 4  58.com Inc.
- 5  Carvana Co.





TOP PLAYERS FOR SOCIAL MEDIA

The rankings include total revenue of a company's other business beyond the subject sector

- 1  Facebook, Inc.
- 2  Tencent Holdings Ltd
- 3  Twitter, Inc.
- 4  Tencent Technology Beijing Co. Ltd.
- 5  YY Inc.

TOP PLAYERS FOR ONLINE TRAVEL SERVICES

The rankings include total revenue of a company's other business beyond the subject sector

- 1  Booking Holdings Inc.
- 2  Liberty Expedia Holdings, Inc.
- 3  Expedia Group, Inc.
- 4  Amadeus IT Group S.A.
- 5  Ctrip.com International, Ltd



INDUSTRY TRENDS

The information technology & services sector comes with an array of opportunities and challenges. Most markets must be agile and innovative due to near-constant disruption and changing consumer behavior, as well as knowledgeable about competitors and emerging trends. By having a sense of where the sector is headed, brands can then leverage tools and trends to introduce features and services that will benefit their users and keep them engaged.

Increased disruption via social media marketplaces

Though markets across the tech industry – and beyond – are being disrupted by social media, the web portals and specialised information sites are feeling particularly pressured by the social platforms.

With the rise of social media advertising, other models of digital advertisements – including the post-per-click model – are declining in popularity.

Additionally, social media marketplaces are posing a challenge to the classified ad space – however, specialised information sites continue to boast higher conversion rates, even with lower traffic, than social media marketplaces have yet to achieve. But, users do like that on social media marketplaces they are able to interact with real, as opposed to anonymous, sellers.

Both web portals and classified ad websites will need to adapt to changing models and work to integrate new tools in order to remain relevant.



“ BRANDS ARE INCREASINGLY FINDING WAYS TO IMPLEMENT AUGMENTED REALITY (AR) AND VIRTUAL REALITY (VR)

Keeping up with the competition

Social media platforms seem to be in cosy positions – Facebook, Snapchat and Twitter have cemented themselves as industry giants and each serves its own audience and niche.

That said, new players in the industry bringing new ideas are ripe for the picking, be it through acquisition and consolidation, or by creating and implementing a feature similar to a disruptor to keep users engaged with and delighted by a platform they are already using.

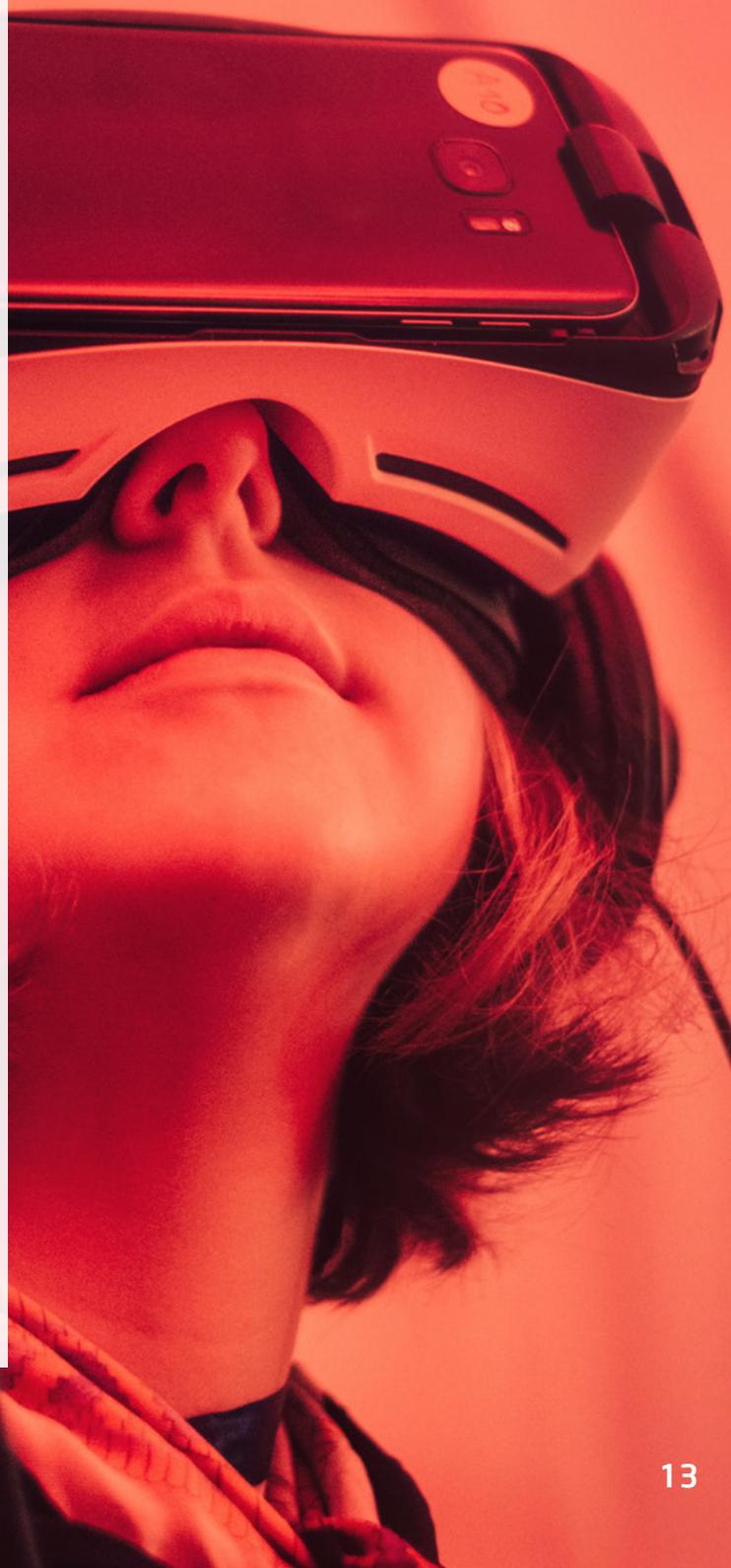
While these platforms are ubiquitous the world over, they are not always the most popular social media options, depending on where you are in the world. In Asia Pacific, for example, Mainland China's Weibo and WeChat reign supreme, while in South Korea, Kakaotalk is the go-to option. Live streaming and video streaming via these services became mainstream years ago, and relatively new features, such as IGTV and YouTube TV, are now introducing these tools for their audiences.

The benefits of augmented reality and virtual reality

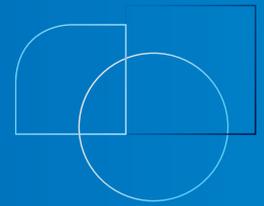
Brands are increasingly finding ways to implement augmented reality (AR) and virtual reality (VR) in ways that provide a helpful tool or benefit to their audience, be it through virtually trying on clothes or makeup, envisioning new furniture in your living room or booking a holiday.

For example, Amadeus' Navitaire introduced a VR search and booking experience for holidays in 2017 – while using a virtual reality headset, users can walk through a plane to select a seat, check out different models of vehicles to rent, and pay within the VR platform¹⁷.

As AR and VR tools and experiences become more mainstream, these types of services can greatly aid the travel industry in providing customers more information and greater choice regarding their travel bookings.



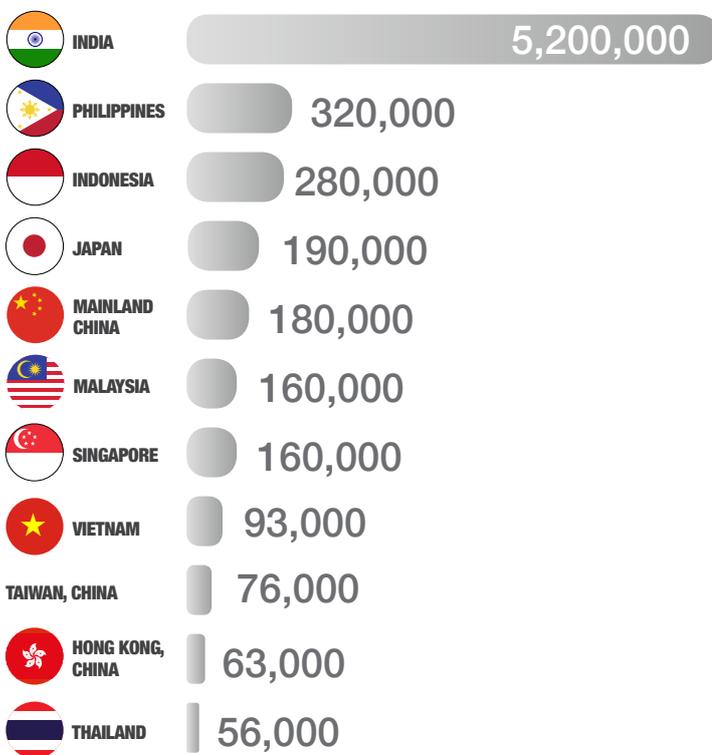
HIRING TRENDS



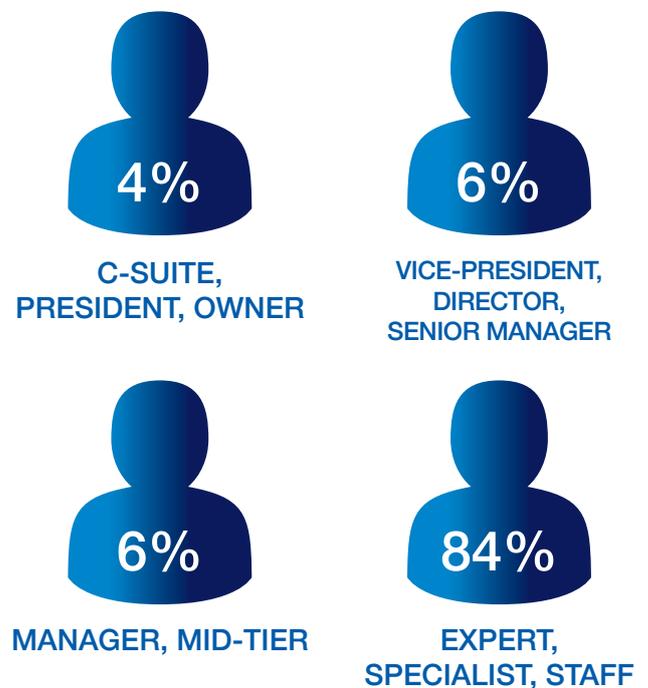
Asia Pacific is well-known as a hub for information technology & services thanks to the innovation that has come from India, Mainland China, Japan and South Korea. As the region digitises and workforces upskill, there are growing numbers of talent with digital skills looking to enter this sector, especially in Indonesia and the Philippines.



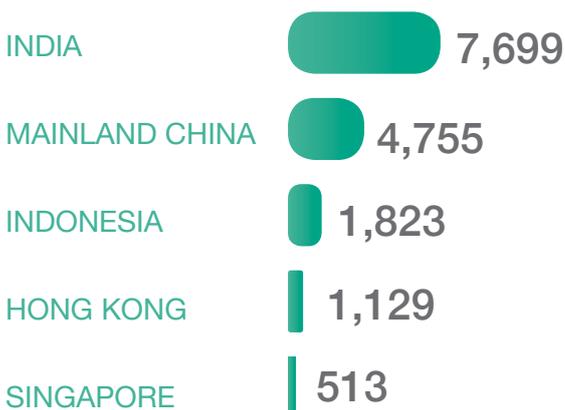
TOTAL LABOUR POPULATION BY MARKET *AS VISIBLE ONLINE



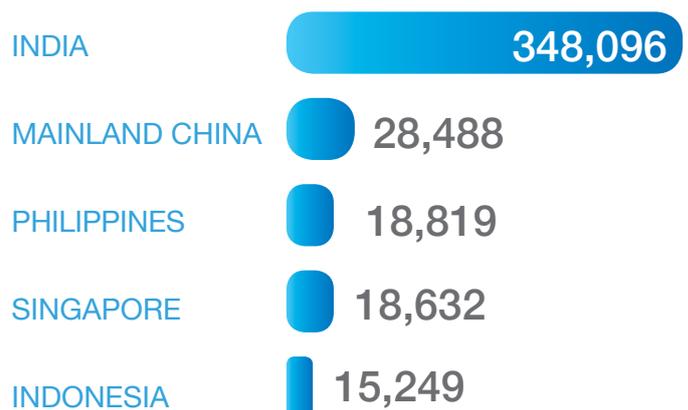
LABOUR DISTRIBUTION BY LEVEL



TALENT IN THE INDUSTRY WHO CHANGED JOBS IN THE LAST ONE YEAR (BY LABOUR POPULATION)



TALENT IN THE INDUSTRY WHO ARE ACTIVELY LOOKING FOR A JOB CHANGE (BY LABOUR POPULATION)



HOW BRANDS ARE ATTRACTING TOP TECH TALENT



The new digital technologies like social media, mobility, analytics and cloud computing (SMAC) have permanently changed the way Indian IT firms do business, and increasing competition, pressure on billing rates of traditional services and increasing commoditisation of lower-end services are among the key reasons the Indian software industry is making a fast move up in the software value chain.

Competition is global in nature and stretches across boundaries and geographies. It is expected to intensify due to the attempted replication of the Indian offshoring model by MNC IT majors as well as small startups. Indian IT companies have adopted the global delivery model, setting up development centres in Latin America, Southeast Asia and Eastern European countries to take advantage of low cost and cater to the local market. In the U.S., such centres help mitigate the risks of the new immigration bill and increase the probability of winning projects in highly regulated sectors such as healthcare, government services and utilities.

The gap between hiring volume and budget is a continuous struggle, and their aligned movement indicates the struggle will not be resolved anytime soon. Unfortunately, this imbalance prevents organisations from overcoming obstacles or transforming their talent strategies, leaving HR leaders looking for new, cost-efficient ways to fill the gap. Some solutions that have proved successful are developing or revamping employer branding to be more attractive to potential talent, automating recruitment processes to assist with such tasks as pre-screening candidates and leveraging AI-enabled talent sourcing to improve efficiency, increase candidate engagement and boost the quality of new hires.



In India, innovation is high on every CXOs agenda, and many companies, including Unilever, ANZ, Boeing and Samsung, are working to innovate very aggressively at their engineering R&D centres. What's more, many companies have already begun digital and innovation journeys in at least one area of their operations – often finance operations due to the quantum of repetitive and transactional tasks that can be easily automated to boost efficiency and improve customer experience.

While the banking sector has been amongst the front-runners, traditional brick-and-mortar companies across oil and gas, retail, manufacturing and life sciences have also followed suit and are steadily moving towards innovation-led delivery models to stay strategically relevant to the parent organisation, customers and suppliers at the same time.

In my view, more companies are increasing hiring budgets rather than upskilling the existing workforce, though both are happening. That said, niche skills cannot be picked up through simple learning and development programmes as they require in-depth understanding and years of experience. These are areas where organisations do not have a choice but to increase their hiring budget and bring in outside talent, especially since both global in-house capability centres and new-age tech companies will continue to grow as India is a strategic hub and preferred destination for outsourcing and consolidating processes.



GC JAYAPRAKASH (JAY)

Executive Director, IT & Technology
RGF Executive Search India



AYUSH DOSHI

Director, IT & Technology
RGF Executive Search India

```
...visible')) {
//it became hidden
.appeared = false;
return;

the element inside the visible
= w.scrollLeft();
= w.scrollTop();
= t.offset();
= o.left;
= o.top;

x = settings.accX;
y = settings.accY;
h = t.height();
wh = w.height();
tw = t.width();
ww = w.width();

+ th + ay >= b &&
<= b + wh + ay &&
+ tw + ax >= a &&
<= a + ww + ax) {

//trigger the custom event
if (!t.appeared) t.trigger

} else {

//it scrolled out of view
t.appeared = false;

create a modified fn with some
modifiedFn = function() {

//mark the element as visible
t.appeared = true;

//is this supposed to happen
if (settings.one) {

//remove the check
w.unbind('scroll', check)
var i = $.inArray(check,
if (i >= 0) $.fn.appear.c

}

//trigger the original fn
fn.apply(this, arguments);

modified fn to the ele
('appear'
```

COMPUTER SOFTWARE

GOING TO THE CLOUD

With the advent of cloud-based computing, the computer software industry has been transformed to accommodate the demand for cloud-based storage and solutions for both personal and business use. As more people and businesses shift away from traditional software to cloud-based solutions, spending on computer software, especially in the enterprise software market, has steadily risen. The market is expected to reach nearly US\$430 billion in 2019, a 7% increase from the \$399 billion earned in 2018, as per Gartner.

What's more, the global enterprise resource planning (ERP) software market is expected to grow by 9% by 2023¹⁸ while customer relationship management (CRM) software is projected to rise at a CAGR of almost 2% per year and be worth nearly US\$30 billion by 2022¹⁹. As nations in Southeast Asia digitise and upgrade legacy systems, Asia Pacific is projected to grow fastest in adoption of CRM software services²⁰, while North America is leading the way for ERP software²¹.

TOP PLAYERS FOR ERP

The rankings include total revenue of a company's other business beyond the subject sector

-  Microsoft Corporation
-  Oracle Corporation
-  SAP SE
-  Tata Consultancy Services Ltd
-  Infosys Ltd

TOP PLAYERS FOR CRM

The rankings include total revenue of a company's other business beyond the subject sector

-  Microsoft Corporation
-  International Business Machines Corporation
-  Oracle Corporation
-  SAP SE
-  Salesforce.com, Inc.

INDUSTRY TRENDS

Trends in computer software have been cloud-based for several years now, but as companies across the world – and especially in Asia – begin to upgrade in earnest, the adoption of cloud-based ERP and CRM software solutions are increasing, especially for small businesses.

There is also growing demand for sophisticated tools embedded with AI and machine learning capabilities, especially for businesses launching omnichannel campaigns as well as those looking to automate processes.

Artificial Intelligence and Machine Learning

Through 2018, many platforms began offering tools backed with artificial intelligence and machine learning capabilities. As these tools sort of tools, such as chatbots and digital assistants, become widespread, customers will expect to encounter tools that can access their personal customer data and provide streamlined service. But, AI and machine learning capabilities also help to automate once-tedious business functions, freeing up man hours and allowing businesses and employees to do more advanced work with their time.

Spending on platforms and tools embedded with these sophisticated capabilities is already increasing, and Gartner forecasts that the investment in and use of AI will provide approximately US\$2 trillion of benefit for companies²².

ERP software for SMEs

A major factor in the global growth of ERP software is increasing demand for the software from SMEs. This type of software does much more than provide accounting assistance – it gives businesses with the ability to maximize their planning and resource management with such benefits as streamlining data and provided enhanced decision-making, tracking operational costs, and providing oversight on sales, all within one platform, making it an attractive option.

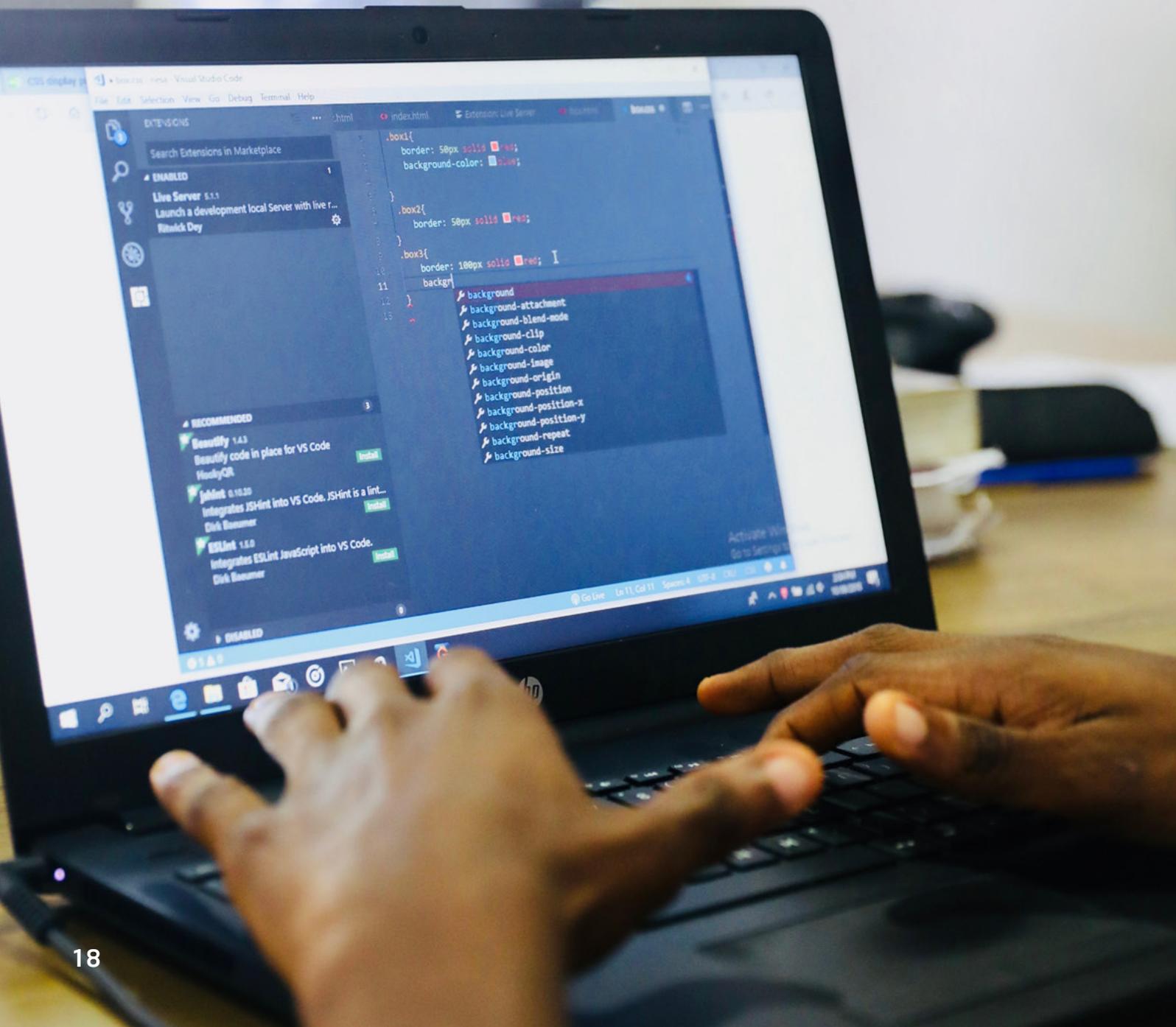
As software developers have introduced ERP options specifically for SMEs needs and budgets – and ranging in type from on-premise to cloud-based, to software as a service (SaaS) – the demand and adoption has grown, driving spend on this type of software over the course of 2018.

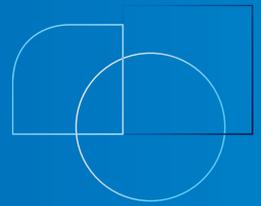


“
THE MARKET IS EXPECTED TO REACH NEARLY US\$430 BILLION IN 2019, A 7% INCREASE FROM THE \$399 BILLION EARNED IN 2018

Cloud-based CRM software

As economies across Asia Pacific – and the world – prepare for Industry 4.0 solutions and upgrade legacy technology, cloud-based CRM solutions are a popular option for businesses to invest in. This is especially true for Singapore and India, where many multinationals have offices. In fact, Southeast Asia’s cloud computing market revenue is estimated to be more than US\$40 billion by 2025 – this is partly in thanks to Alibaba’s investment in infrastructure for Indonesia, Malaysia’s “Cloud First” strategy launched in 2017, and demand from SMEs across the region.





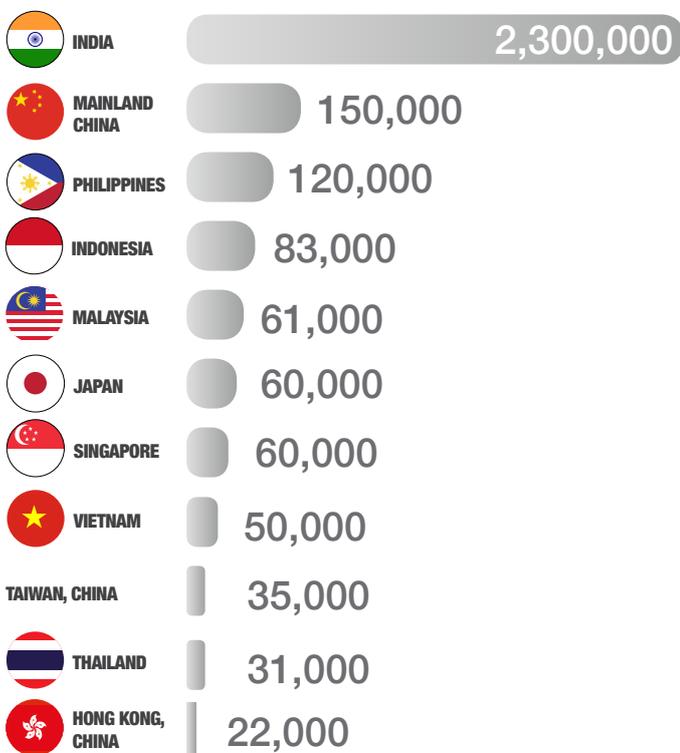
HIRING TRENDS

The highly competitive computer software sector is constantly on the lookout for talent who can innovate and execute new ideas. However, across Asia Pacific there is a large talent gap – though roles are available, there is not enough talent with the required knowledge, experience or skill sets to fill the vacancies. This is a common challenge across the TMT industry and one that many companies are working to rectify through the expansion of recruitment teams, the increased use of networking websites and job posting boards, and internal promotions or transfers, when possible.

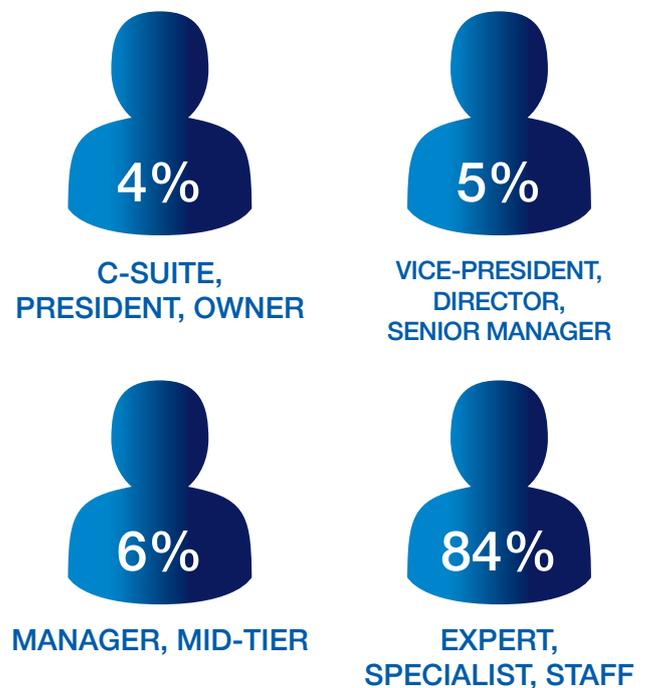
However, there is a demand for computer software talent in Asia Pacific and shrewd professionals interested in upskilling and even switching into the industry would be wise to do so.



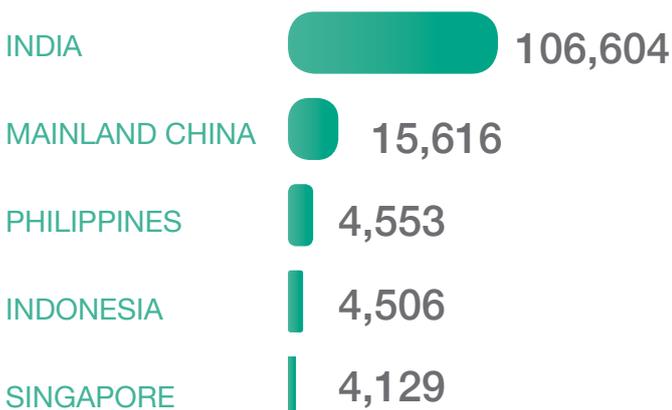
TOTAL LABOUR POPULATION BY MARKET *AS VISIBLE ONLINE



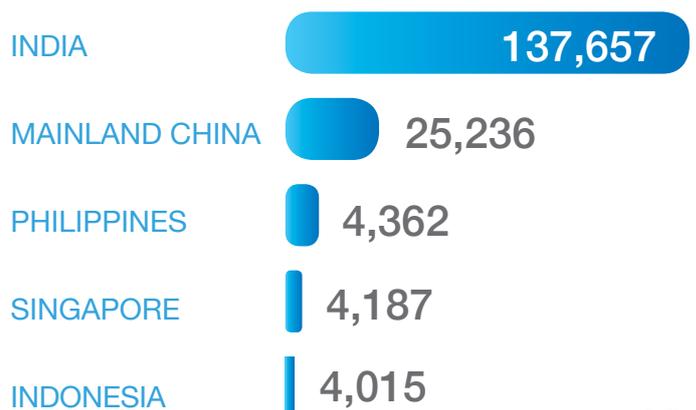
LABOUR DISTRIBUTION BY LEVEL



TALENT IN THE INDUSTRY WHO CHANGED JOBS IN THE LAST ONE YEAR (BY LABOUR POPULATION)



TALENT IN THE INDUSTRY WHO ARE ACTIVELY LOOKING FOR A JOB CHANGE (BY LABOUR POPULATION)



DEVELOPERS, DATA ANALYSTS AND DATA CONSULTANTS IN HIGH DEMAND IN JAPAN



After Lehman Brothers filed for bankruptcy in Japan, many developmental roles that had been based locally were sent offshore, and most new infrastructure, application and software developments were put on hold due to budget restraints. As the economy has improved in tandem with the digitisation of work processes, there has been a gradual increase in developer positions. However the challenge for Japan is a talent crunch due to the need for bilingual talent with niche tech skills that can liaise with teams from global companies to ensure smooth integration into Japanese companies.

Aside from bilingual developers, there is high demand for data analysts and data consultants that are comfortable with not only data science, but robots and artificial intelligence, in order to keep data local so as to ensure security and compliance. Additionally, as more companies work to upgrade legacy technology and migrate to cloud-based ERP, there is a need for more cloud computing professionals.



BENJAMIN CORDIER

Director, IT & Contract

RGF Professional Recruitment Japan



TELECOMMUNICATIONS

A RAPIDLY EVOLVING SECTOR

Consisting of voice call, data connectivity and other communication services using mobile phones, the telecommunications sector is big business. The global mobile ecosystem made US\$1.1 trillion in 2018, employed 32 million people worldwide, and generated nearly US\$4 trillion of global economic value – 4.6% of GDP. Over the next five years, the sector is projected to increase its global economic contribution by nearly US\$850 billion²⁵.

With 5.1 billion people worldwide connected to mobile services by the end of 2018 – 67% of the global population – the annual growth rate since 2013 has been climbing at 5%. Over the next seven years, an additional 710 million people, largely from Asia Pacific and Sub-Saharan Africa, are expected to gain access to mobile services for the first time, leading to an annual growth rate of almost 2% and accounting for 71% of the global population.

Though the growth in mobile connectivity is on the downtrend, more people being connected to a network via mobile phone provides the telecommunications sector, as well as other sectors that service telecommunications motivation to innovate.

TOP PLAYERS FOR TELECOMMUNICATIONS

The rankings include total revenue of a company's other business beyond the subject sector

-  **AT&T Inc.**
-  **Verizon Communications Inc.**
-  **China Mobile Ltd**
-  **Nippon Telegraph and Telephone Corporation**
-  **SK Holdings Co., Ltd**
-  **Deutsche Telekom AG**
-  **Telefónica, S.A.**
-  **China Telecom Corp., Ltd**
-  **Vodafone Group plc**
-  **Orange S.A.**

INDUSTRY TRENDS

As mobile penetration and data consumption increase, telcos are looking for ways to provide better, more stable high-speed networks to more people.

To do this, some companies are investing in 5G infrastructure and deployment, as well as 6G research and development. Other companies, however, are looking to diversify their offerings through merging with companies from other sectors, such as media, or investing in IoT services or useful digital tools, such as fintech, in order to provide customers with more than just mobile connectivity.

But as this sector expands and transforms, they must ensure they are complying with regulation, ranging from net neutrality to data privacy.

5G

5G networks are launching worldwide, and it's expected that two-thirds of all mobile connections will be on high-speed networks, including 4G and 5G, by 2025. South Korea, the U.S. and Japan are currently leading deployment²⁶, and many markets, including Singapore, Hong Kong, Australia, Mainland China, Saudi Arabia and the UK are scheduled to launch 5G networks in 2019 and 2020²⁷. By 2025, it's expected that more than a fifth of the world's markets will have launched 5G, and that US\$244 billion will be spent on networks in the process.

Cross-Sector Mergers and Offerings

In a sector as competitive as telecommunications, companies are constantly searching for ways to expand or transform their business to reach more customers and offer existing ones new services. To do this, companies are increasingly considering mergers and acquisitions – and some telecommunications businesses are merging with companies from another sector.

For example, in the U.S., Verizon has acquired several media companies, including AOL, Yahoo!, Fleetmatics and XO Communications. Meanwhile, Vodafone in Europe has looked to the growing IoT space and is offering integrated solutions. In 2017, the company introduced V by Vodafone, a tracking solution that can be integrated into home security systems as well as used for keeping tabs carsor pets, and in APAC, Japan's NTT DoCoMo, Singapore's Singtel and South Korea's SK Telecom offer such services as advertising, security, fintech and ecommerce.

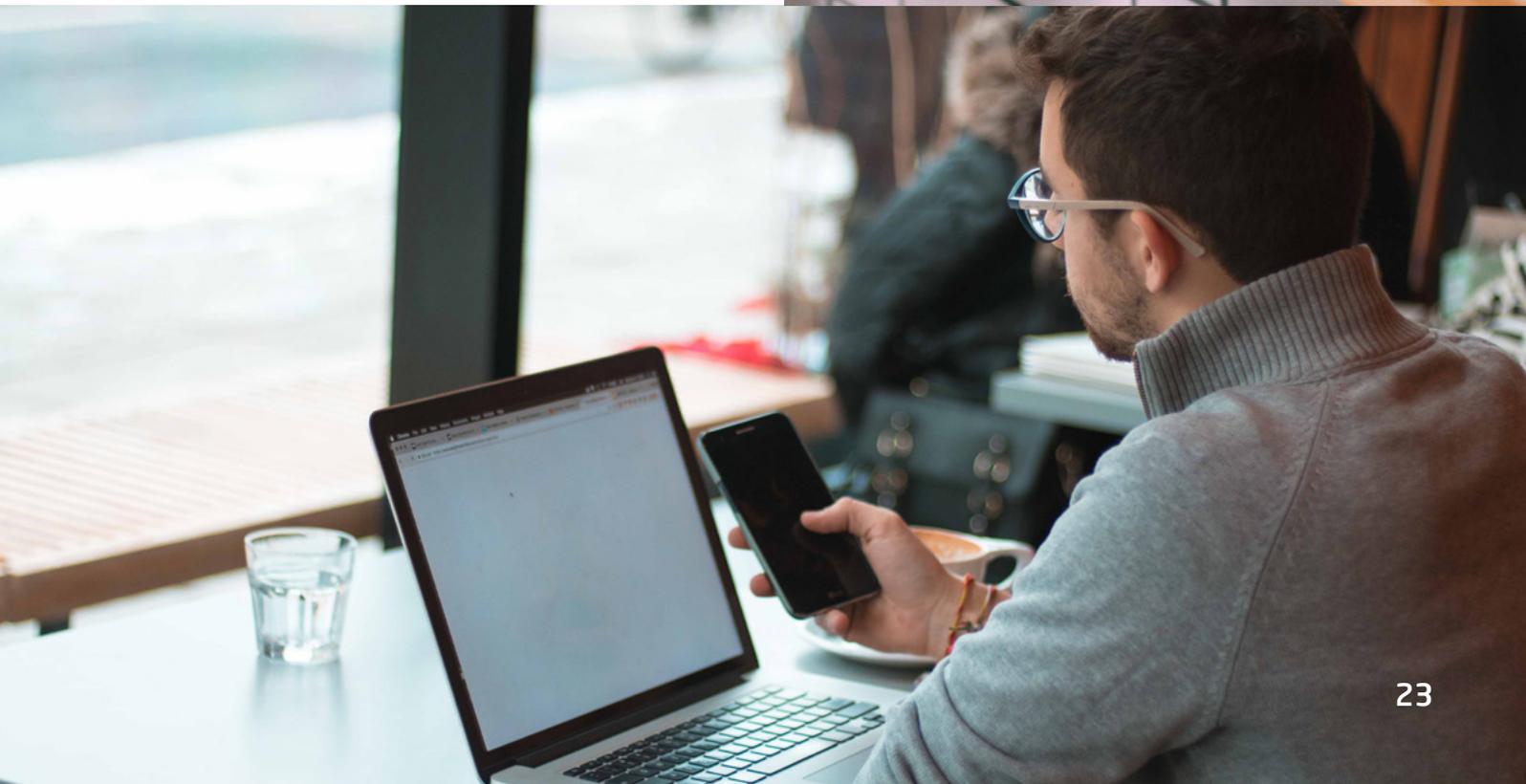
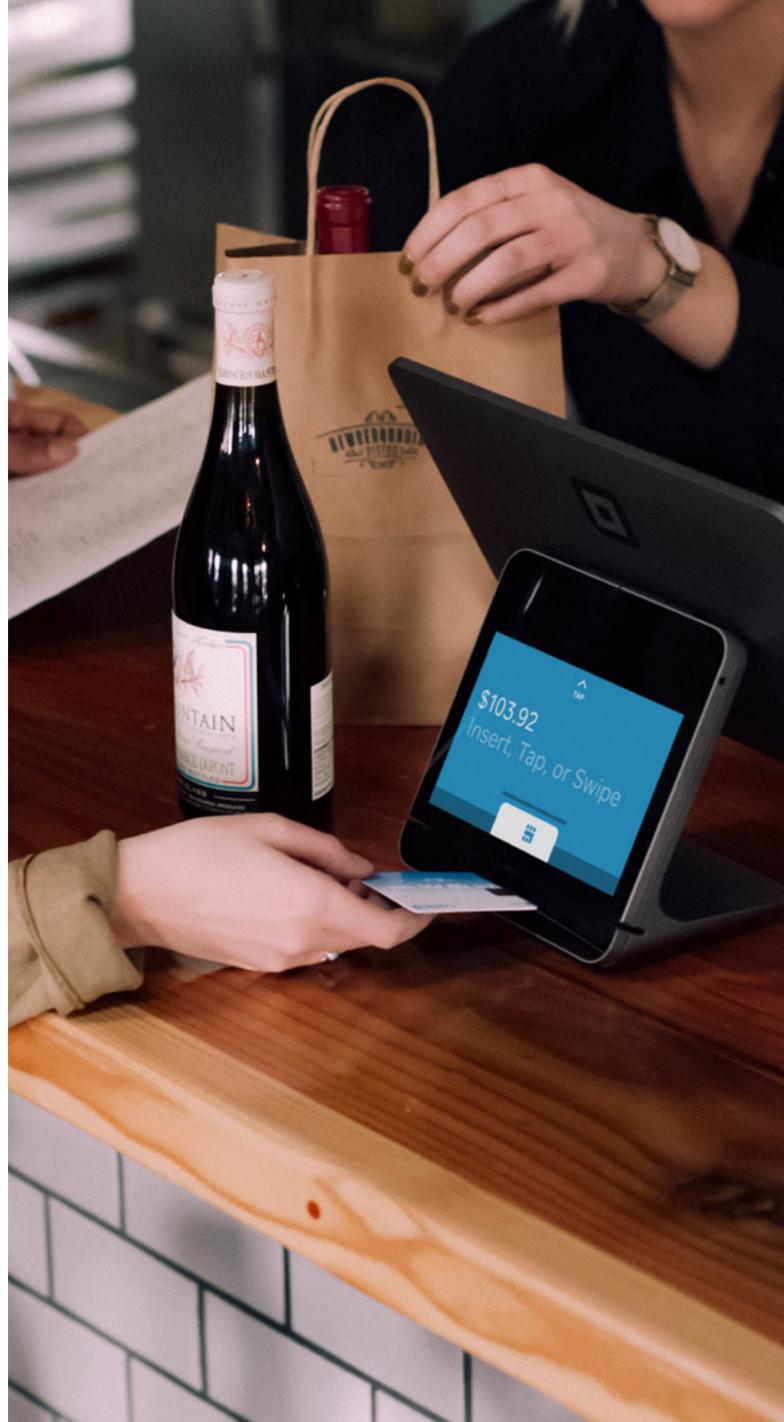
“
**SOME COMPANIES
ARE INVESTING IN 5G
INFRASTRUCTURE AND
DEPLOYMENT, AS WELL
AS 6G RESEARCH AND
DEVELOPMENT**



Regulation and Privacy

With the introduction of GDPR as well as increased privacy concerns worldwide, telecommunications regulation has remained a hot topic in the industry and in governments. As more mobile operators expand their services, the biggest challenge can often be ensuring monetisation and data collection strategies do not violate net neutrality regulations, which differ between countries.

What's more, as foreign telecommunications companies assist with providing networks to other nations, there are concerns regarding how these networks are being used – especially by those run by Chinese telcos. Huawei, for example, is embroiled in a battle with the United States over potential mobile espionage, intellectual property theft and trade violations²⁸. As cybersecurity concerns and data privacy are particularly sensitive topics for consumers, it's expected that more stringent regulation will be put in place, and that more responsibility will be levied at these data companies, rather than governments.

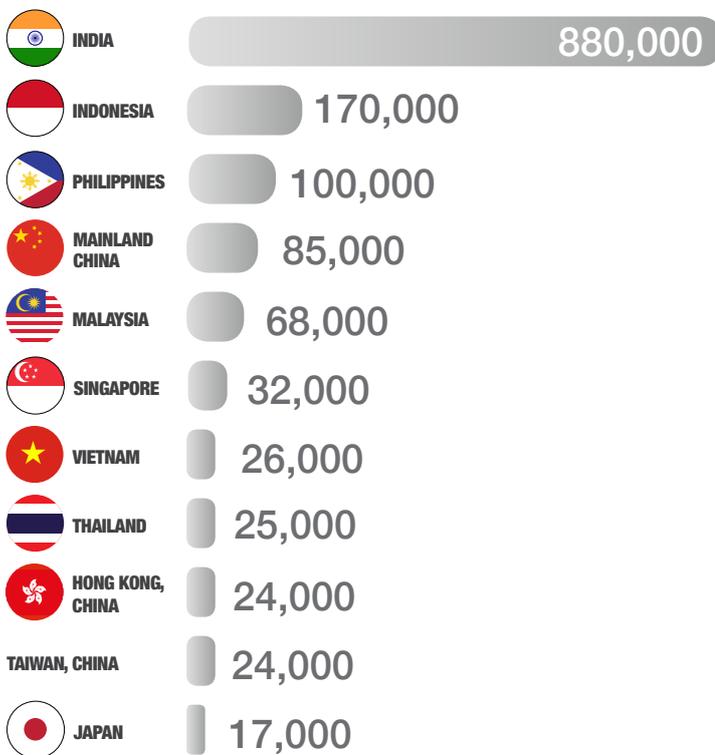


HIRING TRENDS

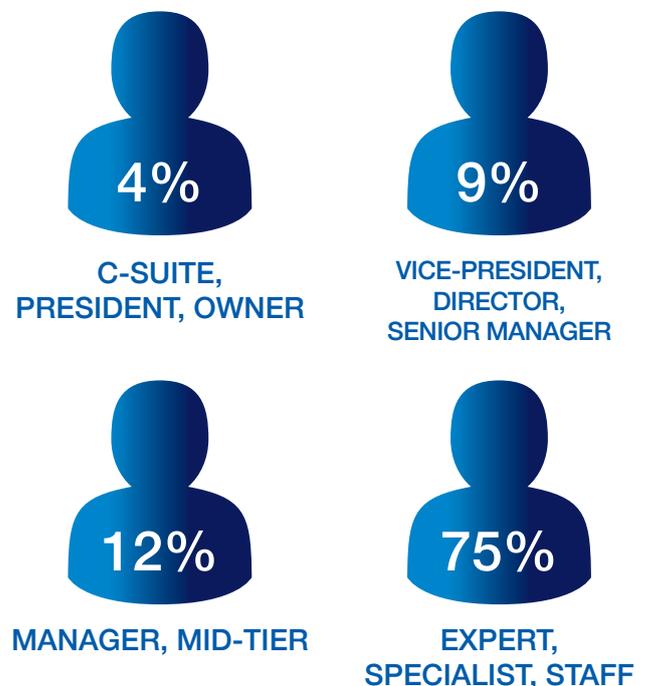
The telecommunications sector is diverse, and roles can range from technical to creative. As 5G networks are launched over the next few years, these companies will need talent with skill sets in network deployment and maintenance, as well as data, AI and cybersecurity know-how.

According to our talent data, employers in the telecommunications sector are seeking candidates with industry knowledge and that are agile and flexible, and that many brands are looking to improve their employer branding in order to attract talent.

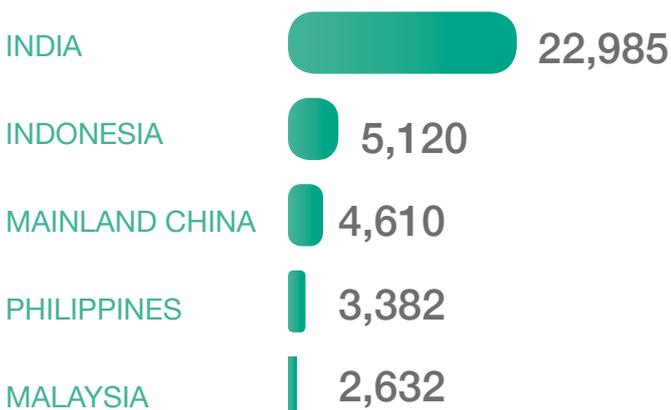
TOTAL LABOUR POPULATION BY MARKET *AS VISIBLE ONLINE



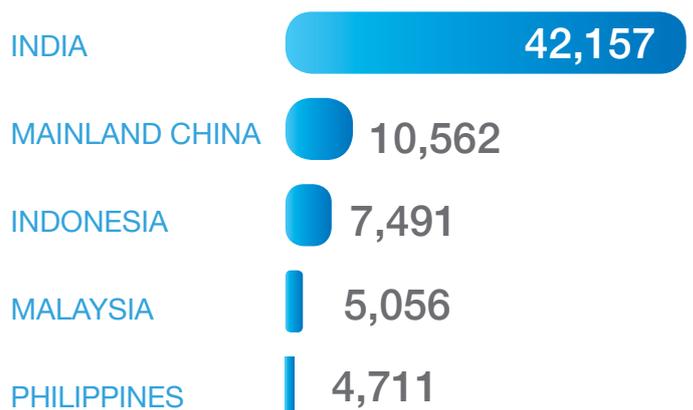
LABOUR DISTRIBUTION BY LEVEL



TALENT IN THE INDUSTRY WHO CHANGED JOBS IN THE LAST ONE YEAR (BY LABOUR POPULATION)



TALENT IN THE INDUSTRY WHO ARE ACTIVELY LOOKING FOR A JOB CHANGE (BY LABOUR POPULATION)



MOBILE ADOPTION AND 5G DRIVING TELECOM HIRING



As mobile adoption grows in APAC & SEA and 5G technology and operations networks rapidly expand, there is a marked increase in hiring opportunities across the telecommunications sector, which includes network strategy and planning, data science and IP networks. With a significant part of mobile adoption being an increase in smartphone ownership, there is also a need for specialists in software, particularly API development.



LUXSHUMI RAJAMANI

Managing Consultant, IT & Technology
RGF Executive Search Malaysia



INTERNET

ISPS AND DATA CENTRES LOOK TO THE FUTURE

Due to the proliferation of the internet today, internet services are now a varied field. Though telecommunications companies provide data services for devices and are growing at a rapid rate, internet service providers (ISPs) still supply broadband service to much of the world – especially in rural areas and developing nations that have yet to upgrade to high-speed networks.

But the internet sector now includes more than just service providers, and has expanded to account for internet infrastructure services, such as data storage. These data centres are expected to provide reliable, secure, scalable infrastructure, and as global data storage continues to rise thanks to cloud computing, AI, IoT and quantum computing, data centres will need to increase their capacities. APAC is expected to be the fastest growing market for data centre location, and is projected to grow at a CAGR of 25% from 2016 to 2020 – and Mainland China alone is expected to grow at a CAGR of 13% in the same time period, as per Technavio.

TOP PLAYERS FOR SERVER HOSTING

The rankings include total revenue of a company's other business beyond the subject sector

- 1  Amazon.com, Inc.
- 2  Alphabet Inc.
- 3  Verizon Communications Inc.
- 4  Microsoft Corporation
- 5  China Telecom Corp., Ltd

TOP PLAYERS FOR SERVICE PROVIDERS

The rankings include total revenue of a company's other business beyond the subject sector

- 1  AT&T Inc.
- 2  Verizon Communications Inc.
- 3  China Mobile Ltd
- 4  Nippon Telegraph and Telephone Corporation
- 5  Comcast Corporation

INDUSTRY TRENDS

The internet sector is experiencing sweeping change both in consumer demand and in regulations that must be complied with. This requires internet service providers and the colocation market to proceed with caution – especially as these markets work to expand their services and scale their businesses.

Seeking Answers about Regulation

Regulation is currently a major focus across the technology industry. However, there is currently no industry standard – regulations are determined and enacted by governments.

So, as regulation in the U.S. – where many tech giants that lead the industry are headquartered – becomes an increasingly heated debate about how best to protect consumers, regulation in Europe is moving more swiftly (comparatively) with the introduction of GDPR. What's more, the EU is looking to introduce a tech doctrine that allow individuals more control over their personal data and the profits from it, and that will spur competition in the tech industry²⁹. As regulations geared toward competition between internet service providers and data protection are debated and evolve, these companies have no choice but to continue scaling and moving forward – hoping that the ways in which they are expanding will comply with future regulations.



“
THE INTERNET SECTOR IS EXPERIENCING SWEEPING CHANGE BOTH IN CONSUMER DEMAND AND IN REGULATIONS THAT MUST BE COMPLIED WITH.

New Growth Opportunities for ISPs

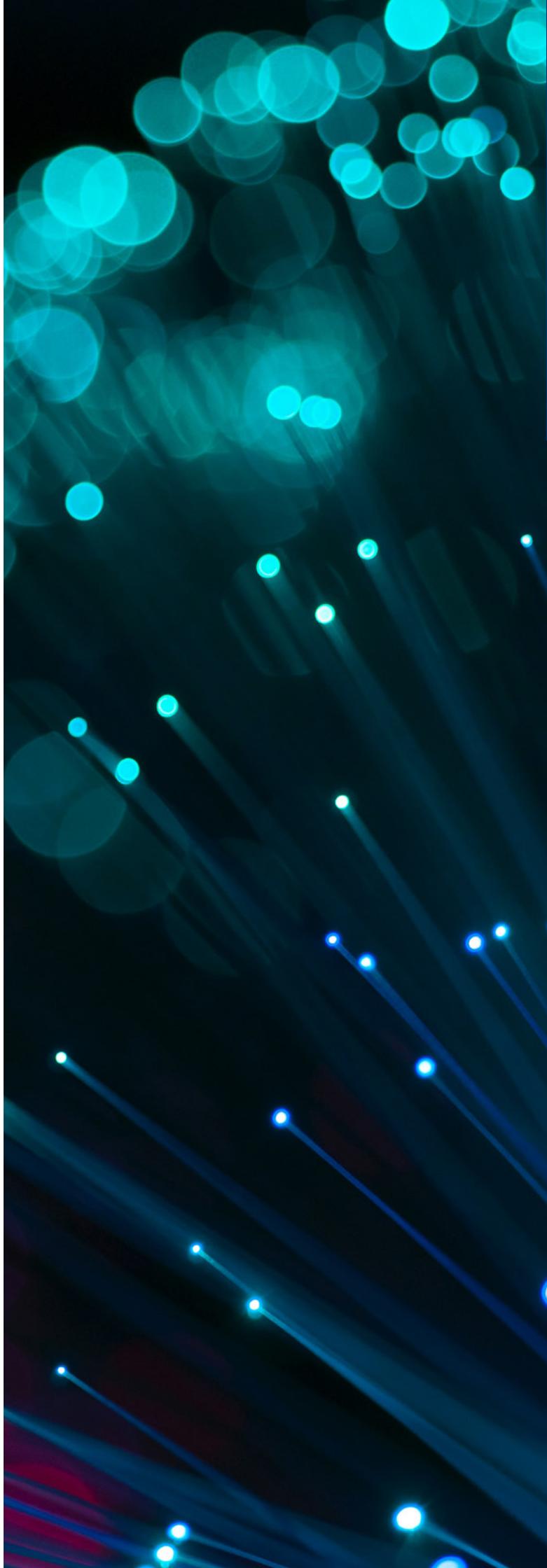
Over the next decade, as the broadband market slows due to the adoption of high-speed networks and preference for devices, ISPs must find ways to stay relevant and find new ways to grow.

One way to do this is to increase speed and security of networks, making them a faster, safer option than data networks offered by telcos. Some ISPs are also looking to provide a wider range of services, including the expansion of home broadband services to include devices as well as outdoor internet offerings to provide a seamless experience on broadband.

Global consolidation for data centres

Much like other sectors in the TMT industry, the colocation market is seeing an uptick in mergers and acquisitions – but in this sector, those acquisitions usually lead to consolidation.

This is because the colocation market is comparatively fragmented – the top 10 players in colocation only make up a third of the global market. But beginning in 2017, consolidation has become a growing trend – in 2017 alone, there were nearly 50 deals valued at nearly US\$20 billion. As companies acquire and consolidate, this is helping to decrease fragmentation and could lead to an increase in mega data centre facilities that increase competition and raise the barrier for entry into the market.

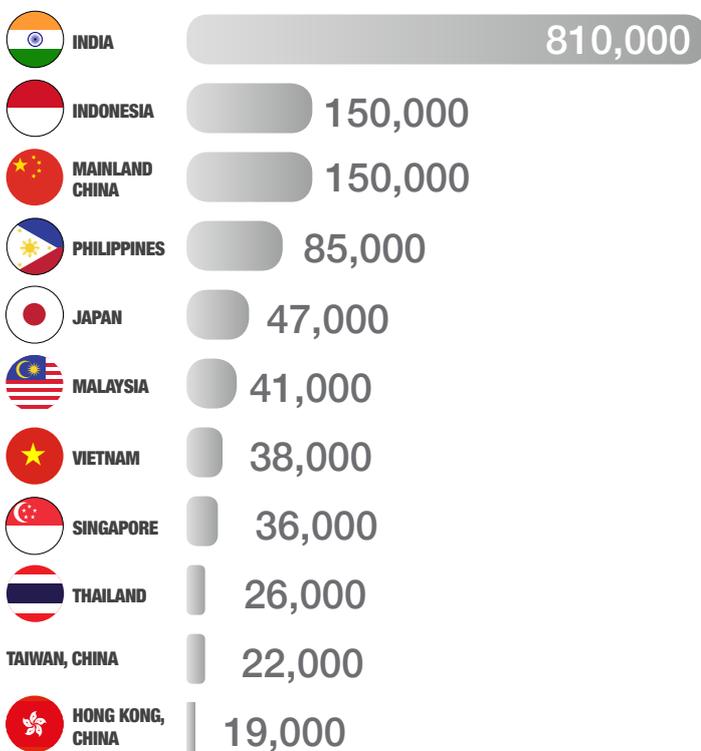


HIRING TRENDS

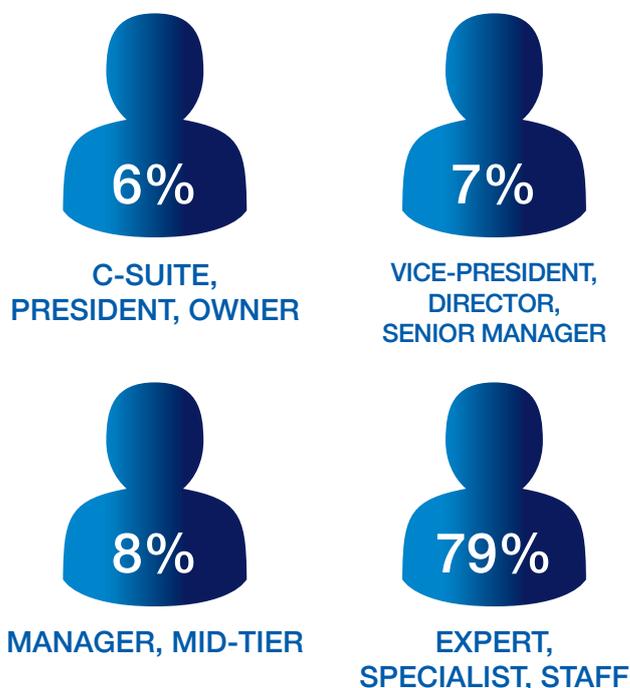
The internet sector in APAC is a competitive talent market and one within the TMT industry that is not hurting for talent – for example, in Mainland China there are 1,032,846 candidates in the sector, but within the past year, there have only been 29,057 talent movements.

Though the difference in figures in Mainland China is outsized compared to the rest of the region, other nations such as India, Indonesia and the Philippines, also boast more candidates than there are available roles. This may signal to employers and recruiters within the internet sector that there is growth opportunity within Asia Pacific thanks to the vast amount of talent available.

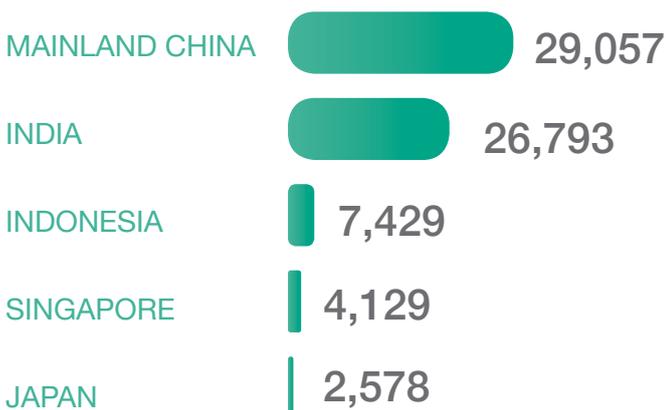
TOTAL LABOUR POPULATION BY MARKET *AS VISIBLE ONLINE



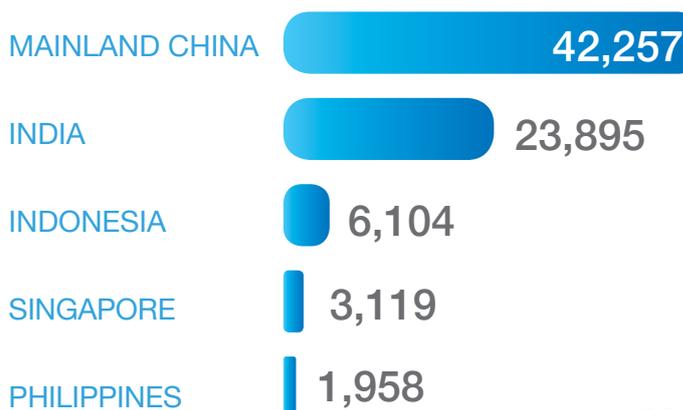
LABOUR DISTRIBUTION BY LEVEL



TALENT IN THE INDUSTRY WHO CHANGED JOBS IN THE LAST ONE YEAR (BY LABOUR POPULATION)



TALENT IN THE INDUSTRY WHO ARE ACTIVELY LOOKING FOR A JOB CHANGE (BY LABOUR POPULATION)



GOING LOCAL IN TREND FOR BUSINESS IN INTERNET SECTOR



The technology sector in Southeast Asia is currently enjoying an influx of well-qualified, ambitious candidates across a number of key disciplines. That said, companies will need to continue to be flexible in their approach to hiring in order to take full advantage of the technical skills on offer. Most notably, building regional offices in emerging markets has proven to be a successful strategy for our clients. Though it is not always possible to relocate all the resources needed to grow, a local presence allows businesses to take full advantage of the skillsets emerging markets can provide.

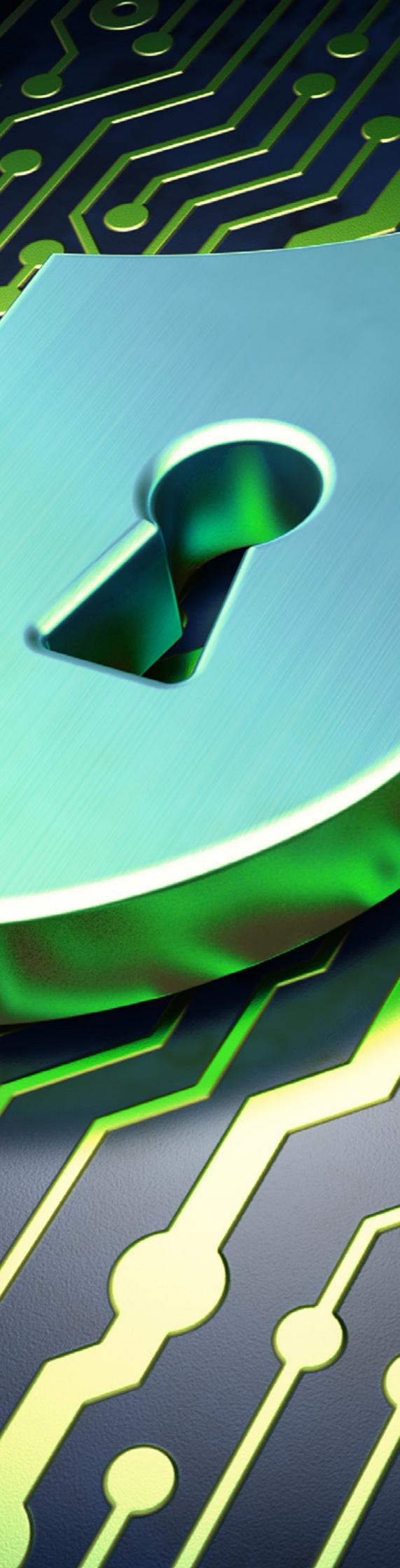
Aside from technical talent, it is vital for companies in the internet sector to build a strong sales team – an area where companies have traditionally struggled to hire effectively. Increasingly, companies should be tapping on local, well-connected commercial talent who can knock on the right doors and get the right conversations started. On the other side of this coin, potential customers increasingly look for a commitment to their local market, with a registered office and locally based customer support.



PETER DOWLING

**Regional Practice Head,
Software & FinTech**

RGF Executive Search Singapore



COMPUTER AND NETWORK SECURITY

THE GROWING BUSINESS OF KEEPING DATA SAFE

As more data is stored online, computer and network security is an increasingly important field as the need to ward off viruses and cyberattacks continues to grow. Though the growth of cloud computing and social network platforms has worked as an accelerant for the computer and network security market, criminalisation of cybercrimes and increasing regulations are also driving the expansion of this market. In 2018 the global IT service market was estimated to be worth around US\$704billion.

Though expanding rapidly, this market can also be volatile – if a security company is unable to stop a breach or cannot scale at the rate its clients need, they will most certainly lose business, as brands want to know their data is secure and will not be compromised. They want to work with companies they trust, and if that trust is lost, it will be hard to salvage. Because of this, the barrier to entry in this market is fairly low, and competitive trends change rapidly.

TOP PLAYERS FOR COMPUTER AND NETWORK SECURITY

The rankings include total revenue of a company's other business beyond the subject sector

-  Symantec Corporation
-  Accuvant Inc.
-  Check Point Software Technologies Ltd
-  New H3c Technologies Co., Ltd
-  Fortinet, Inc.
-  Trend Micro Inc.
-  VeriSign, Inc.
-  Kudelski SA
-  FireEye, Inc.
-  Proofpoint, Inc.

INDUSTRY TRENDS

Though cybersecurity is a market in high-demand, the trends are constantly shifting and are determined by such factors as advances in the wider technology space, regulatory changes and the rapid pace at which cybercriminals innovate new tools and tactics for attacks.

That said, the current security market is seeing growth in outsourcing by businesses of all sizes, increased need for cloud security services and, thanks to increased connectivity globally, the ability for businesses to choose if they prefer a local or global security partner.

IT Outsourcing

Among the many services and tools offered by the computer and network security market, IT outsourcing is currently booming. As the data companies collect and store becomes more complex, many are turning to outsourcing solutions rather than managing the security of the data in-house. This is not only a solution for multinationals or large corporations – increasingly, SMEs with low IT budgets or no IT personnel are looking to outsource security, as well.



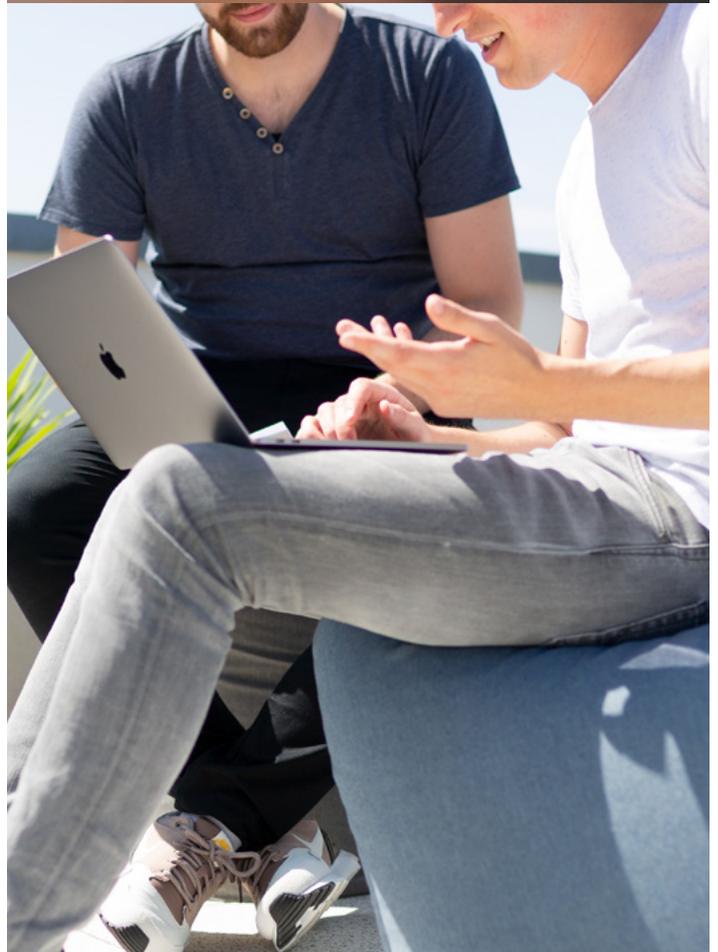
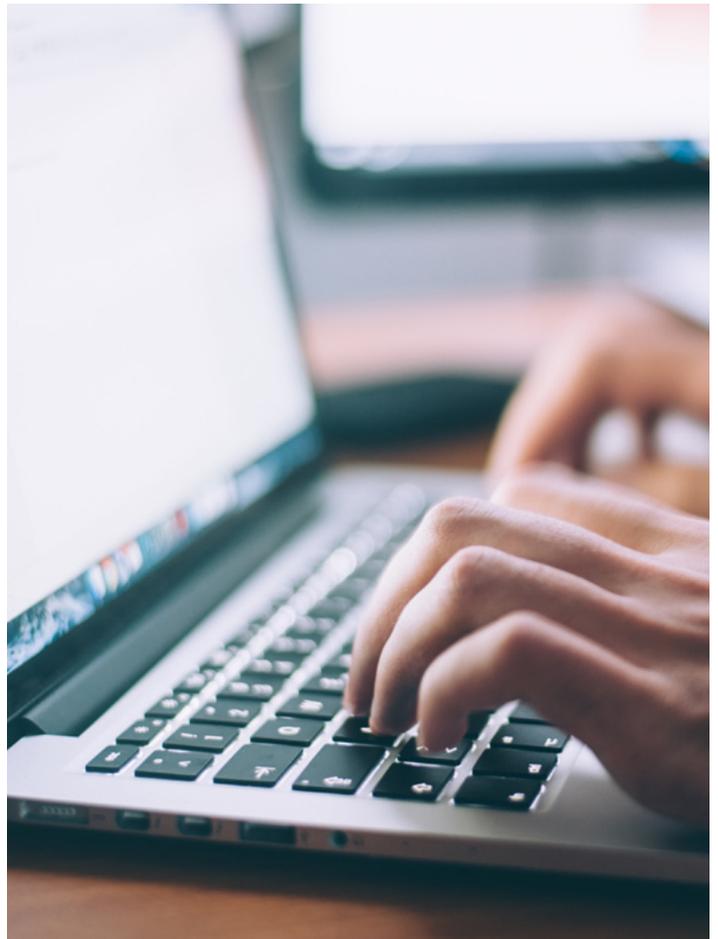
“
THROUGH CLOUD SECURITY MEASURES, COMPANIES CAN MONITOR A COMPANY’S EMAILS, FILES AND DATA REMOTELY VIA THE INTERNET

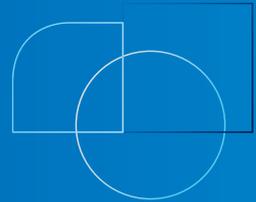
Cloud security

As more businesses adopt cloud-based software platforms, the new field of cloud security – also called Security as a Service – has emerged and become a necessity. Through cloud security measures, companies can monitor a company’s emails, files and data remotely via the internet. This removes the need for businesses to install expensive security software or store hardware on the premises, creating an attractive and frictionless security solution.

Freedom of choice

Due to the nature of the computer and network security market, the majority of the work can be completed remotely – allowing companies to choose a security partner that’s right for them regardless of global location. Of the players in the industry, many are based in the U.S. and provide comprehensive security services globally, especially to multinational corporations. However, they aren’t the only players, and businesses that prefer to work with local security partners have the option to do so.





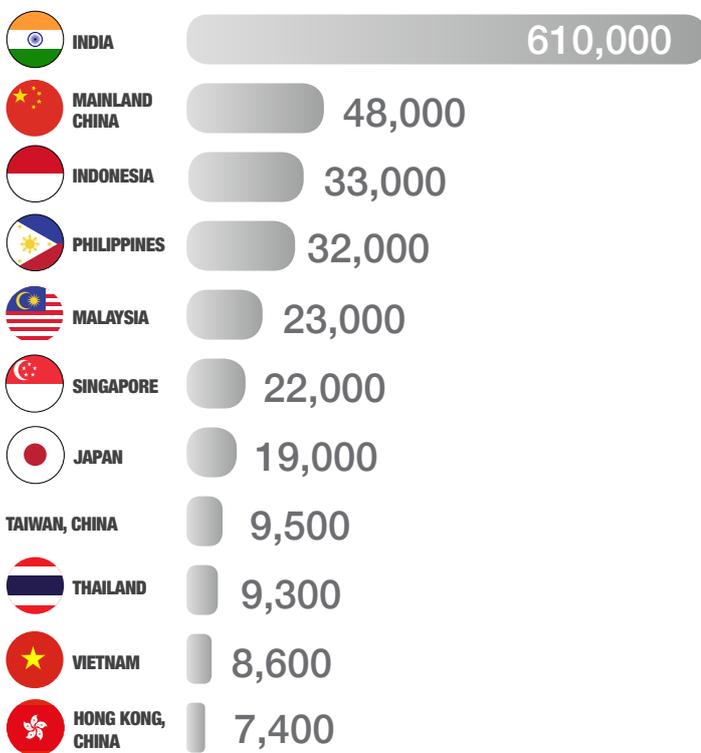
HIRING TRENDS

Due to the nature of computer and network security, it's imperative that talent in this sector be analytical, solutions-oriented, and detail-oriented. If a breach or attack is detected, fast action and communication with clients is key.

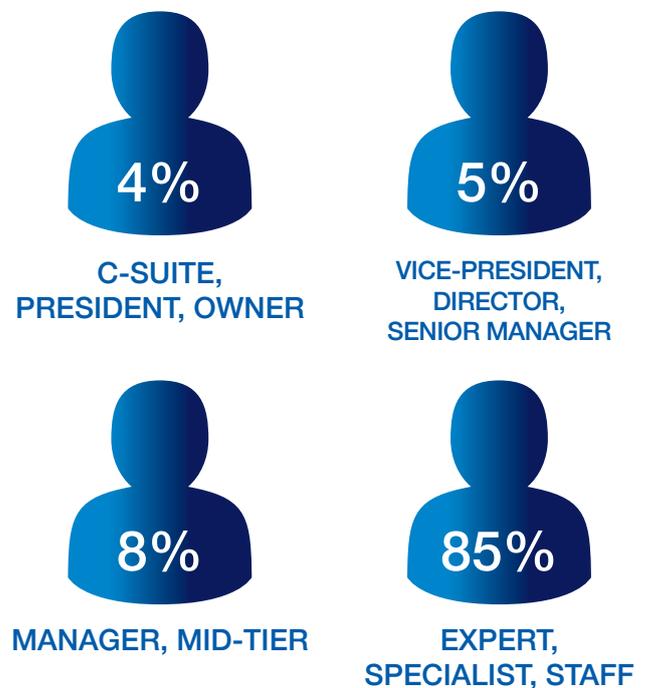
Because cybersecurity has been a global focus, it's likely that young talent with these skill sets will be entering the workforce, as well as experienced professionals looking to upskill or switch industries.



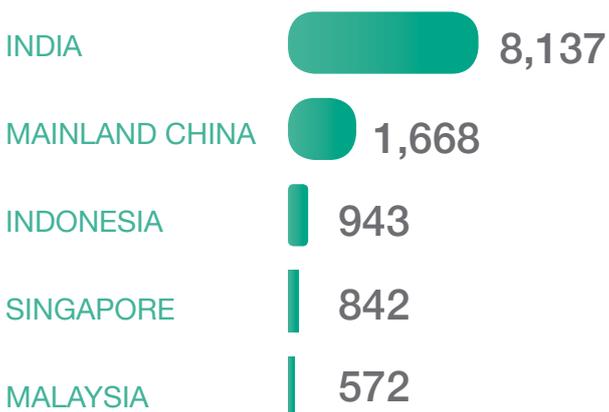
TOTAL LABOUR POPULATION BY MARKET *AS VISIBLE ONLINE



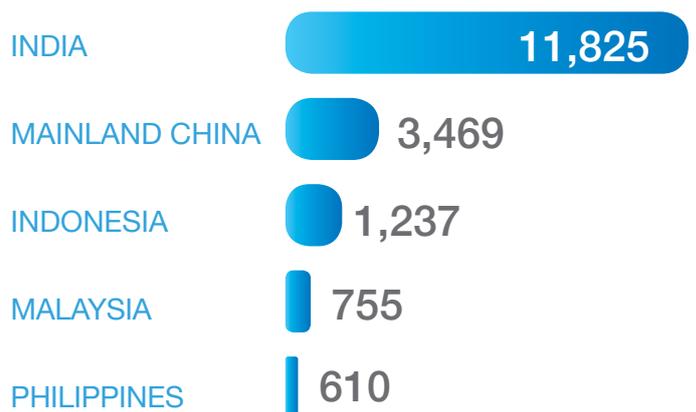
LABOUR DISTRIBUTION BY LEVEL



TALENT IN THE INDUSTRY WHO CHANGED JOBS IN THE LAST ONE YEAR (BY LABOUR POPULATION)



TALENT IN THE INDUSTRY WHO ARE ACTIVELY LOOKING FOR A JOB CHANGE (BY LABOUR POPULATION)



THREAT DETECTION DRIVING TALENT GROWTH FOR COMPUTER AND NETWORK SECURITY SECTOR



The security services market has been rigorously growing in the past few decades, and the demand for advanced threat protection solutions is expected to rise tremendously due to increasingly sophisticated online cybercrime and malware attacks.

Because the global population is becoming more reliant on IoT devices and migration of data to clouds, the security landscape is becoming more complex, and organisations need to take appropriate measures against potentially crippling data breaches. Both in the public and private sectors, the Security Services industry is being transformed to prevent and mitigate against future threats, both physical and cyber.

The market is witnessing a shift from threat prevention to threat detection, which requires more investment in security-related research and technology, as well as hiring talent across APAC. Because organisations currently rely on managed security service providers due to the continued shortage of in-house deep security talent, job seekers with knowledge of artificial intelligence, neural networks, blockchain, quantum computing and Internet of Things who can approach, plan and integrate these emerging and evolving technologies into how we live and work will find positions quickly. This will remain true as the security market evolves and grows in the coming years.



ADIL DRIOUECH

Senior Director

Technology and Digital Media and Services

RGF Executive Search Japan

CONCLUSION

As the telecommunications, media and technology industry considers its future, the immediate challenge facing the industry is the talent gap. Though there is talent available throughout APAC as per our survey findings, employers in this industry are looking for experienced candidates who possess not just the right skill sets, but are also the right match for the company – and HR teams are often struggling to identify these candidates.

To fill roles in the short-term, TMT companies with sizeable hiring budgets should work to expand their recruitment teams, or work with local recruiters, as well as identify any internal talent who may be willing to move to another market or region, or be transferred into a different department.

By refining recruitment processes, reviewing salary and benefits packages to ensure they are market competitive and deploying employer brand campaigns, companies should be able to find qualified candidates – perhaps even faster than they think.

REFERENCES

1. <https://economictimes.indiatimes.com/tech/software/indias-it-spending-to-grow-6-7-in-2019-to-89-billion-gartner/articleshow/66617219.cms>
2. <https://www.blog.google/around-the-globe/google-asia/economysea-2018/>
3. <https://asia.nikkei.com/Business/Business-trends/South-Korea-US-and-Japan-lead-in-5G-network-deployment>
4. <https://www.marketing-interactive.com/singapore-media-and-entertainment-spend-to-see-3-5-growth-in-next-5-years/>
5. <https://www.scmp.com/business/companies/article/2149582/hong-kongs-digital-spending-surge-us58b-2022-consumers-turn>
6. <https://www.statista.com/statistics/236943/global-advertising-spending/>
7. <https://www.statista.com/statistics/236943/global-advertising-spending/>
8. <https://www.marketingdive.com/news/global-ad-revenue-delivers-strongest-growth-in-8-years-with-72-increase/543491/>
9. <https://www.emarketer.com/content/video-swells-to-25-of-us-digital-ad-spending>
10. <https://digiday.com/media/inside-race-scramble-ad-supported-ott/>
11. <https://www.zenithmedia.com/booming-internet-ads-power-faster-global-adspend-growth/>
12. <https://www.zenithmedia.com/booming-internet-ads-power-faster-global-adspend-growth/>
13. <https://www.mobilemarketer.com/news/googles-q4-ad-revenue-rises-20-as-its-pricing-power-erodes/547666/>
14. <https://www.ub-speeda.com/industry/industryinformation/Id/UBI220140110?17>
15. <https://www.globenewswire.com/news-release/2018/12/26/1678253/0/en/Global-Online-Travel-Booking-Market-Will-Reach-USD-1-955-Billion-By-2026-Zion-Market-Research.html>
16. <http://www.travelweekly-asia.com/Travel-News/Travel-Trends/Asia-overtakes-US-as-largest-digital-travel-market>
17. <https://www.youtube.com/watch?v=Ax0BmO3DrTc>
18. https://www.technavio.com/?utm_source=pressrelease&utm_medium=bw&utm_campaign=t9_wk17&utm_content=IRTNTR31111
19. <https://www.statista.com/statistics/605933/worldwide-customer-relationship-management-market-forecast/>
20. <https://www.marketresearchfuture.com/reports/crm-software-market-4943>
21. <https://finance.yahoo.com/news/global-enterprise-planning-erp-software-143000701.html>
22. <https://www.gartner.com/en/newsroom/press-releases/2019-04-17-gartner-says-global-it-spending-to-grow-1-1-percent-i>
23. <https://www.mumbrella.asia/2017/09/singapore-may-catching-crm-bug-not-everybody-page>
24. <https://www.cio.com/article/3397054/the-state-of-cloud-computing-in-southeast-asia.html>
25. <https://www.gsmaintelligence.com/research/?file=b9a6e6202ee1d5f787cfebb95d3639c5&download>
26. <https://asia.nikkei.com/Business/Business-trends/South-Korea-US-and-Japan-lead-in-5G-network-deployment>
27. <https://www.gsmaintelligence.com/research/?file=b9a6e6202ee1d5f787cfebb95d3639c5&download>
28. <https://www.cfr.org/backgrounder/huawei-chinas-controversial-tech-giant>
29. <https://www.economist.com/leaders/2019/03/23/why-big-tech-should-fear-europe>

METHODOLOGY

RGF's Telecommunication, Media and Technology Outlook report is a comprehensive analysis of broad industry and hiring trends in seven key sectors of the TMT industry. The report is based on third-party and RGF-owned data – our "Talent in Asia" survey as well as a real-time review of job opportunities culled from a large, representative selection of online career sources in the month of May. Due to the real-time nature of some of this data, RGF does not guarantee the accuracy of the information and encourages readers to use its insights at their discretion.

About RGF International Recruitment

RGF (Recruit Global Family) is the global brand of Recruit Group, which is the fourth largest recruitment and information service company globally. Founded in 1960, the Recruit Group creates and provides platforms that connect companies and consumers by offering Opportunities for Life. RGF International Recruitment, under the Recruit Group, provides a wide range of recruitment solutions in 11 markets and 26 cities in Asia. We deliver optimal, cross-border recruitment solutions at all levels and across all industries and functions, transcending national and city boundaries through our three service brands, with the aim of unleashing the potential of individual talents and employers in Asia.

Brand and Services



Bó Lè Associates, which provides executive search services primarily in Mainland China, Hong Kong, and Taiwan, is part of the RGF Executive Search brand.

Our Strengths

As RGF International Recruitment

 **900+**

Specialist Consultants

Specialized across all industry sectors and job functions (as of Nov 2018)

 **10000+**

Placements per Year

We find the best talent

 **26**

Cities in Asia

To support your regional recruitment needs

As Recruit Group

 **No.4**

In Global Revenue

Annual net sales of over USD 19 Billion in recruiting and information services (as of March 2018)

 **59+**

Years of Experience

To deliver comprehensive HR services globally

 **40000+**

Group Employees

3 business units in Media & Solutions, HR Technology, Staffing across 60+ countries (as of March 2018)

Contact Us

Visit our website



www.rgf-hr.com

Connect with us on LinkedIn



RGF Executive Search: www.linkedin.com/company/rgf-international-recruitment



RGF Professional Recruitment: www.linkedin.com/company/rgf-professional-recruitment



RGF HR Agent: www.linkedin.com/company/rgf-hr-agentrecruitment