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Technology Institute

Emerging Markets Top 30 Software Companies

The globalisation of the software industry creates emerging-market stars

Global 100
Software Leaders

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Executive summary

With globalisation, successful software companies are no longer limited to the US and Europe. They're everywhere around the globe. PwC, in conjunction with International Data Corp., has ranked the top 30 software companies in emerging markets and identified some intriguing characteristics. They have some common characteristics (experience, understanding of local markets), common advantages (low cost structures, entrepreneurial culture, demographics), and common disadvantages (distance, funding, trust). These leaders have overcome the disadvantages and leveraged the advantages to become companies to be reckoned with, either as competitors or partners.

What emerging markets contribute when software goes global

The software industry has become more global than ever thanks to the ability of developers everywhere to establish operations and distribute product anywhere. Today, global software vendors are as likely to compete with companies in Seoul, Shanghai and other emerging markets as with companies in Seattle or Silicon Valley. If they're not competing yet, they may soon be. It's also just as likely that they should consider partnering with or acquiring them.

Who are these companies in emerging markets? What characterises the successful ones? The PwC Top 30 Emerging Markets Software Companies answers the first question: they are regional vendors who have grown into global players over the last decade or so. We developed this ranking as part of our ongoing PwC Global 100 Software Leaders coverage with assistance from the research firm International Data Corp. (IDC). The ranking is based on 2014 revenues, the most recent full calendar year available (See Methodology, page 15).

The world is clearly full of opportunity, because—as this list illustrates—there's plenty of creativity bubbling up all over the globe, from all parts of Asia to Eastern Europe and South America.

What does this mean to software vendors in more mature markets? A lot. Unless you were paying close attention, you may not have noticed that companies in emerging countries have developed significant global presences. Most of the companies on our list are more than ten years old and they've been working toward this success for a while. They've achieved it through cost advantages, and by tapping regional strengths. They've done it the way companies have become successful for years—they started small and became incrementally bigger and stronger.

We spoke to executives at several of these companies, and to PwC consultants, to develop a snapshot of exactly how successful software companies in emerging markets gain traction in an increasingly competitive world. Any vendor that wants to investigate such products—or partner with, acquire, or even emulate their regional strength—can learn from their success (For more information on dealing with emerging-market companies see the sidebar, page 13).

Companies in emerging countries have developed significant global presences.

PwC's Emerging Markets Top 30 Software Companies

Rank	Vendor	HQ country	2014 Software revenue (US$M)	2014 Total revenue (US$M)	Software revenue as % of total	Area of focus
1	Kaspersky Lab*	Russia	$695	$711	98%	Security
2	TOTVS	Brazil	$584	$752	78%	ERP
3	Neusoft	China	$508	$743	68%	IT software and services
4	ESET*	Slovakia	$437	$437	100%	Security
5	Yonyou Network	China	$362	$711	51%	ERP
6	1C*	Russia	$273	$331	82%	ERP
7	Glodon*	China	$263	$286	92%	ERP
8	Teamsun*	China	$185	$758	24%	IT software and services
9	Hundsun*	China	$173	$231	75%	Financial services software
10	Kingdee	China	$162	$252	65%	ERP
11	Onmobile	India	$129	$138	93%	Telecom
12	Inspur	China	$128	$220	58%	IT hardware and software services
13	Asseco Group	Poland	$126	$1,973	6%	Financial services software
14	Avast Software	Czech Republic	$110	$217	51%	Security
15	JetBrains*	Czech Republic	$109	$109	100%	Application development
16	CS&S*	China	$109	$525	21%	IT software and services
17	Bitdefender*	Romania	$95	$95	100%	Security
18	Asiainfo*	China	$91	$620	15%	Telcommunications
19	Comarch SA	Poland	$88	$329	27%	IT software and services
20	Infosys	India	$85	$8,216	1%	IT services and outsourcing
21	Bokesoft*	China	$75	$113	67%	IT software and services
22	Hancom	Korea	$65	$72	91%	Office productivity
23	Ahnlab	Korea	$64	$125	51%	Security
24	FT India	India	$63	$93	68%	Financial services software
25	TmaxSoft*	Korea	$60	$76	80%	Enterprise infrastructure and management
26	Subex Limited	India	$50	$59	85%	Telecommunications
27	DigiwinSoft*	China	$47	$99	48%	ERP
28	Founder International	China	$47	$73	64%	Enterprise infrastructure and industrial
29	Prognoz*	Russia	$44	$67	65%	Data analytics
30	Beijing HollyBridge Software Technology*	China	$44	$66	67%	CRM

Source: IDC

*Denotes privately held company

Characteristics of emerging–market software vendors

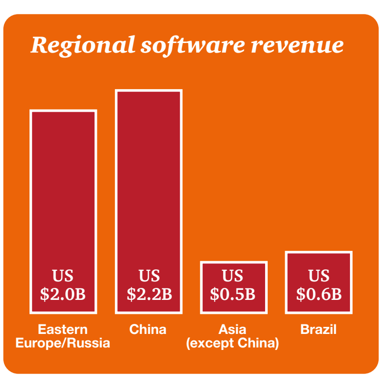
Here's a breakdown of the Top 30 list of software vendors by country:

- Thirteen are based in China. Nine – almost a third – are in Eastern Europe and Russia;
- Seven represent the Asia/Pacific region outside China (India and Korea);
- One is based in Brazil (TOTVS at No. 2).

The geographical breakdown illustrates some interesting common features. The Eastern European/Russian contingent represents a holdover from the Soviet era. Students in that time and place received a rigorous education in math and science, which continues to this day, and the countries themselves place a high emphasis on security. Thus, it's no surprise that the list is topped by a security company (Kaspersky Labs) and also includes others focusing on security (Slovakia's ESET, #4; the Czech Republic's Avast Software, #14; Romania's Bitdefender, #17).

Asia leads the way

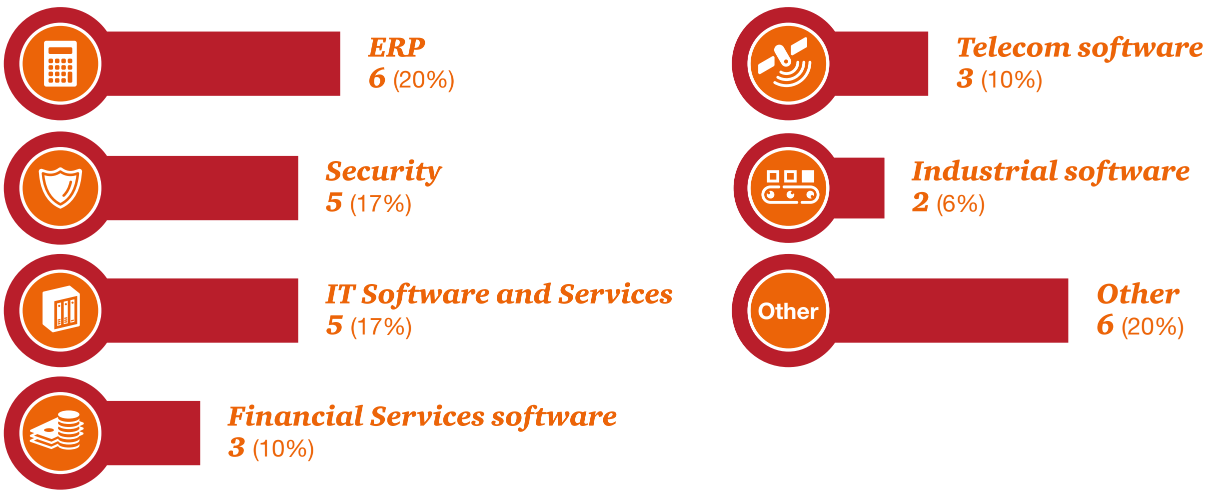
Two-thirds of the Emerging Markets Top 30 Software Companies are located in Asia; China alone comprises more than 40% of the total. Eastern Europe, including Russia, represents almost a third and South America has one.



Source: PwC analysis of IDC data

Emerging-market leaders offer a variety of expertise

Most of the Emerging Markets Top 30 Software Companies have built their businesses on regional strengths and local needs—security software in Eastern Europe, ERP software in Asia.



Source: PwC analysis of IDC data

"Our IT domain expertise was developed over many decades," says Florin Talpes, CEO of Bitdefender (See interview). "Romania was one of the first ten countries to build and design computers, back in the 1950s."[1] A 2014 study by research firm Brainspotting estimated that Romania is still among the top 10 nations for certified IT professionals per capita[2], while content delivery network provider Akamai's Q4 2015 ranking of Internet speed also puts Romania in the top 10 globally.[3]

The Asia/Pacific region is characterised by the dual advantage of low-cost developers and an expanding market. This region not only focuses strongly on technology, but it also has the ability to leapfrog legacy technologies. Given the prevalence of manufacturing in Asia, it's no surprise that most Chinese companies on the list develop software relating to manufacturing or logistics.

1 https://www.scribd.com/document/252694309/Some-Key-Aspects-in-the-History-of-Computers-in-Romania

2 http://www.brainspotting.ro/files/Brainspotting_IT_Talent_Map_Romania_2014.pdf

3 https://www.akamai.com/us/en/multimedia/documents/content/state-of-the-internet/q4-2015-state-of-the-internet-connectivity-report-us.pdf

The first four on the Top 30 list are also on the Global 100: Kapersky at No. 64; TOTVS, No. 74; Neusoft, No. 81, and ESET, No 96.

Other common characteristics mark the leading emerging-market companies. Primary among them: a specialised grounding in the intricacies of the local market, according to Mark Jansen, PwC Singapore's Technology, Media and Telecommunications (TMT) Leader. "Products are created based on local taste and demand. Clothing brands have long designed the fit based on local market need, and many people claim that even Coca-Cola tastes different around the world. Successful companies recognise the importance of localisation. This is especially critical in Asia, where mobile technology enablement is critical because some countries have almost four times the penetration of mobile Internet versus broadband."[4]

Only with that foundation can they go global, as these companies have. Jiren Liu, chairman and CEO of Neusoft (See interview), concurs, noting "These companies have three things in common: they are all leading companies in their local software industry; they have global vision and cooperative ability; and they have passed the risk period of software companies. That is, they have all been operating for more than ten years."

Emerging-market leaders represent 1.4% of total industry revenues

The Emerging Markets Top 30 Software Companies represent a mere 1.4% of global software industry revenues, and have revenues equal to 1.9% of the Global 100 Software Leaders revenues. Their software revenues range from US$44M to US$695M.

Total software industry
US **$385.3B**

Global 100 Software Leaders
US **$272.2B**

Emerging Markets Top 30
US **$5.3B**

Source: PwC analysis of IDC data

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Advantages of emerging-market companies

Emerging-market software vendors have other advantages. Whereas in the past, a consumer software market might have been non-existent and an enterprise software market limited, that's no longer true. Mobile devices are Internet-enabling consumers in every emerging market, from Kenya to Korea. That opens up huge opportunities, both for consumer applications and for customer-centric applications that allow consumers to access back-end information.

"Once you start moving away from an enterprise platform stack toward applications, the local aspect becomes more relevant for emerging-market companies," says US-based Navin Budhiraja, senior vice-president and head of architecture and technology at India's Infosys (#20). "They're closer to customers and have more empathy for them. They can differentiate themselves versus a global competitor, because they're right there" (See interview).

Budhiraja points to Flipkart, India's version of Amazon, as a company that's taken advantage of this insight. "In the US, we're used to using our credit card on Amazon, but few people in India have credit cards and fewer are comfortable using them online. They prefer cash-on-delivery, which meant that Flipkart has to have a system that allows its delivery people to collect cash. It was a last-mile issue they had to solve."

The strength of these markets also derives from burgeoning millennial populations, most of which feel more comfortable with mobile devices, and many of whom might never have owned a computer. They represent significant market opportunities.

Proximity helps even in legacy situations. According to Jim Klein, TMT industry leader for PwC Central and Eastern Europe, another company from the region, 1C (#6), benefitted from creating enterprise applications focused on Soviet-style accounting practices which are still widely used.

Infosys' Budhiraja concurs, citing his company's success with financial services software (Infosys began as a software and services vendor). "Banks usually customise the software, so they need someone that understands the local domain and its regulations."

Wynyard Group, based in Auckland, New Zealand, develops governance, risk, and compliance (GRC) software; according to product director Scott James, the company initially based its product on an Australian financial standard, which turned out to be globally viable.

Wynyard's facility with local standards enticed global companies such as Carnival Cruises and McKesson to seek out its product, which helped Wynyard expand to almost every continent. Today, the proportion of Wynyard's GRC revenues are almost evenly divided among North America, EMEA, Latin America and Asia/Pacific.

There are other advantages, of course, the biggest of which is cost structure—an obvious advantage for emerging market companies. As Neusoft's Liu notes, "The software development cost [in emerging markets] is comparatively lower, which makes companies more competitive in the global market."

PwC's Klein adds that in Eastern Europe, "You have a deep pool of people with strong skill sets, but they're not expensive, especially on a dollar basis. If you get the same talent for half the cost, and you can sell the product in the western market, you'll have a great revenue return."

However, emerging-market companies may experience issues with higher-level management needs, says Marek Panek, vice-president, group and international development at Warsaw-based Asseco Group (#13), an IT software and services company. "We have good programmers, but project managers and other high-level executives are also important. This is the problem in our country, but over time, we are solving that by gaining more experience."

The cost differential is even an advantage in places like New Zealand, according to Wynyard's James. New Zealand's academic system turns out highly educated graduates, and "our costs give us a great advantage. They are lower than North America and Europe, though not as low as India."

Finally, there are cultural and regulatory issues that give emerging-market companies an advantage. Joshua Yulish, CEO of TmaxSoft (#25), a company founded in South Korea and now based in Chicago, says that his research and development staff in Seoul is made up of extremely talented engineers who work autonomously. He also cites a culture of entrepreneurship and risk taking in South Korea, inspired by companies such as Samsung, Hyundai, Kia and LG, all of which started locally and became global leaders in their respective industries.

On the regulatory side, Infosys' Budhiraja cites the example of nuTonomy[5], which debuted self-driving cabs picking up passengers in Singapore in August 2016, a month before Uber launched a similar service in Pittsburgh. "Local regulations may allow start-ups to do certain things that aren't allowed elsewhere," he says, adding that that's an opportunity for emerging-market companies in a variety of fields: consider the ability to do stem cell research or gene sequencing that's forbidden elsewhere.

Emerging-market advantages	
Cost	Developer salaries are low in comparison to more mature economies.
Population	Emerging markets have high levels of tech-savvy millennials who are likely to adopt mobile applications quickly.
Proximity	Software vendors can establish a foothold by becoming invaluable in the local market and then expanding.
Education	Excellent educational systems (think math and science in Eastern Europe) help them tackle complex software, such as security.
Culture	Employees in many emerging-market countries are hard workers as they strive to improve their economic conditions.
Trailblazers	Entrepreneurs are inspired by existing successes: India's Infosys, China's Alibaba, South Korea's Samsung.

> *"The local aspect becomes more relevant for emerging-market companies."*
>
> Navin Budhiraja
> Infosys

5 http://www.bloomberg.com/news/articles/2016-08-25/world-s-first-self-driving-taxis-debut-in-singapore

Disadvantages of emerging-market companies

These advantages, however, face counterweight disadvantages. All is not rosy. If anything, their odds for success are not high, for a number of reasons. Although the Top 30 have proven their staying power, one question regarding emerging-market startups concerns their long-term viability—can they move beyond their start-up phase?

"These players face risk in the long term," says PwC's Jansen. "Their customers and partners have to trust that they'll be in business next week." Indeed, given that developed countries tend to default to names they know and companies they trust, emerging-market companies may suffer from lack of visibility and brand awareness. That said, we are seeing new niches, due to lack of trust. The Indian e-commerce site Paytm has capitalised on the lack of trust in telecommunications companies to provide a pre-paid way to add value to phones; its market valuation is now in excess of US$1 billion.

Other issues, mostly economic and financial, also plague them. PwC's Jim Klein cites the problem once known as 'brain drain'—that is, the predilection of the most highly educated workers to look for work in more developed countries. "Some governments have not made the same level of investment in university that they did in the past, especially in scientific areas," he warns, adding that even though countries like Poland suffered little from the last economic downturn, migration patterns show some talented people still seek better opportunities elsewhere.

Bitdefender CEO Talpes disagrees with this assessment, though. He sees a diminishing trend in professionals moving overseas because of narrowing wage differentials. "Twenty years ago, the gap in salaries could be tenfold. Today, it's no bigger than twofold," he says, adding that the cost of living—much higher in the US and Europe—must also be taken into account. PwC's Klein adds that while brain-drain is country-dependent, some countries, such as Romania, have been able to counter the effect with generous tax breaks to industry that allow companies, in turn, to offer higher salaries.

A bigger issue is access to capital. Places like Silicon Valley and New York have a distinct advantage when it comes to access to venture capitalists, angel investors and hedge fund managers with cash to invest; they also have networks among established business and educational institutions where new ideas and entrepreneurs might exist.

It's not just a question of money, either. One of the US' greatest global strengths remains the maturity of the financial sector and intellectual property laws.

"We are short on an ecosystem for funding," says Bitdefender's Talpes. "We don't have a friendly stock exchange, so we have to go abroad." That creates challenges, according to Klein, thanks to the chequered history of the region. There's been too much corruption and too few trusted financial intermediaries. "If Eastern European start-ups go to Europe for financing, investors won't accept Russia or Ukraine as court of last resort," says Klein. "That makes everything more complicated, and complexity drives cost."

Analysts concur that government support is crucial—but many governments don't always offer long-term financial support. Jianbin Gao, PwC China's Technology, Media, and Telecommunications Leader, insists that China is an exception: "The focus on innovation in China is alive and well," he says, noting that between 2007 and 2015, China increased its in-country R&D

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>
> Florin Talpes
> Bitdefender

spending by 79%. "At the same time, overall private equity and venture capital investment in the first half of 2016 represents almost 75% of the total for all of 2015; that's a strong indicator of entrepreneurship and innovation." Indeed, the most recent [PwC Strategy& Global Innovation 1000] report noted that China is closing in on the United States as the largest country destination for imported R&D.

Even so, the question of poor protection of intellectual property remains. Neusoft CEO Liu acknowledges the issue, saying, "Customers have insufficient intellectual property awareness, and customers' recognition of [the value of] software products and services is also insufficient."

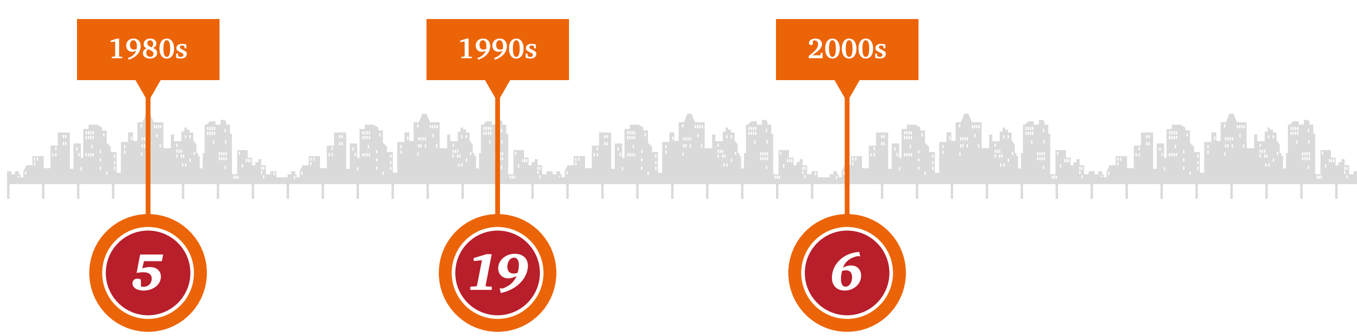
Conventional wisdom sees this as a China issue, but PwC's Jansen argues that copyright infringement happens almost everywhere in the world. That creates a problem: when end-users become too accustomed to low-cost pirated software, they're unwilling to pay more for authorised software. It helps, Klein adds, to have a unique product that's hard to replicate; that explains the high ranking of a security-software company like Kaspersky on the list.

For an emerging-market company trying to establish itself globally, sales efforts represent a challenge, even in these days of video chat and instant messaging. "Even though we can establish a remote connection from anywhere, it's still hard to meet face-to-face for a lot of things," says Wynyard's James. Even after the sale is made, support is also difficult when you're expanding. "In the beginning," says James, "there were a lot of 3 a.m. calls with clients." Now, Wynyard has offices on most continents.

Finally, any nimbleness emerging-market companies have will come in handy. Liu warns, "Due to the quick change of emerging markets, the life cycle of software is short. Software companies will constantly face challenges to update their maintenance services."

Emerging-market leader does not mean start-up

While they may be located in emerging markets, the Top 30 companies are a long way from being start-ups. In fact, five cantrace their roots to the 1980s. The youngest was founded in 2002.



Source: PwC analysis of IDC data

Getting traction

So how do emerging-market companies get traction? If they have any level of ambition, they must go global, argues TmaxSoft's Yulish. "If you're not capturing large economies like the United States, Europe and even Brazil, you won't be able to evolve into a global powerhouse." TmaxSoft moved its headquarters to Chicago in 2015 as part of its transition. Yulish notes that the company gets a great talent base without dealing with the costs inherent in Silicon Valley or New York.

But what tactics underpin that strategy? PwC's Jansen cites the example of a Cambodian start-up using the so-called 'freemium' model. It offers free accounting software, which drives customer usage and loyalty, but it charges for add-on modules relating to invoicing or other features.

Asseco Group uses a different tack: acquisition and federation. Since 2004, it has acquired 60 companies and now has 20,000 employees globally. "We're not like other technology conglomerates like IBM and Hewlett-Packard that own subsidiaries outright," says Panek. "We call ourselves a federation. We acquire usually from 51% to 70% of a company that already has a product base and managers running the business."

It's an intriguing strategy, because, as Panek notes, "Local people are much better prepared to run a business in local markets. They know the environments, and they have the relationships with customers." It's also successful: Asseco Group racked up €1.7 billion in sales revenues in 2015 and is the sixth-largest software vendor in Europe.[6] Furthermore, the strategy allows them to make iterative progress in their expansion. "Thanks to our experience in more-mature countries, we can play the role of advisors in other [emerging-market] countries to help them build modern systems," Panek adds.

While an acquisition strategy is one option, more traditionally, companies must have a solid channel strategy. Yulish says, "The route to new markets and brand awareness goes through partnerships." His company is working with big system integrators and doing joint go-to-market strategies and programmes with IBM, Infosys and others. Increasing visibility in the value-added reseller channel through trade shows and partnerships, helps TmaxSoft become familiar to users. "People have to see the value that you can bring," says Yulish. "You have to emphasise what's in it for them, not you."

Emerging-market companies must have a willingness to learn about business, says Bitdefender's Talpes. "We're not weak on innovation," he says, "but we needed to build knowledge about growing and doing business in mature markets. We focused on learning from consultancies and partners in mature markets like the US and Germany."

Wynyard's James concurs with this strategy. As a New Zealand company, partnership arrangements helped mitigate its distance issues. As Wynyard gained accounts in specific regions, it made sense to establish sales offices in the locations where it was doing the most business. "Establishing those offices required an influx of cash, but it was the partnerships that helped us get started," says James.

When it comes to having the wherewithal to go global, emerging-market companies have more options than before. The open-source software movement benefits them because they can develop applications less expensively. At the same time, TmaxSoft's Yulish suspects that "enterprises are getting fed up with legacy companies' licensing schemes, and open source is making them more amenable to new solutions that don't require a closed architecture." That gives companies like his an opening.

6 http://www.truffle100.com/2015/ranking.php

The cloud reduces software vendors' upfront costs as well. By offering SaaS solutions exclusively, software vendors can reduce deployment and maintenance costs. While the cloud strategy is technically sound, it has some cultural drawbacks. Klein warns that in Eastern Europe, customers are loath to pay subscriptions if it means giving a third party access to their bank account or locking in long-term subscription rates (again, it's the trust issue). Asseco Group's Panek concurs, but for a different reason. "Our customers are more interested in more-traditional licensing models, because we are mostly focused on mission-critical applications. There are also concerns about security, especially in the government sector."

Even so, the question of cloud versus on-premises doesn't seem to be slowing emerging-market companies down. A majority of TmaxSoft's revenues come from on-premises software, and Wynyard's revenues are split 70% licensing, 30% subscription.

One additional note about the advantages and challenges of being an emerging-market software developer: One might think that global exchange rates are an issue for emerging-market companies, but they're not, because so many companies do business either in US dollars or a variety of currencies. Executives from emerging-market companies acknowledge that currency concerns have been an issue for them in the past, but it lessens as they expand the kind of currencies they accept.

When it comes to having the wherewithal to go global, emerging-market companies have more options than before.

What market leaders should consider

Established software companies in mature markets need to keep the following in mind when they think about competing against, partnering with or acquiring emerging-market software companies:

- **Stay aware of their progress**. You never know when a small company is going to finally get traction and explode upon the world stage.
- **Take advantage of their advantages.** They can hire developers for less money; they can help you with follow-the-sun development; they have proximity to markets that you may not.
- **Capitalise on their knowledge.** They know regional regulatory requirement issues better than you do.

Looking forward in a changing world

Indeed, as globalisation continues, we'll begin to see a rationalisation of all these issues. It will be faster and cheaper for emerging-market companies to establish themselves. Bitdefender's Talpeș says, "Along with lower developer costs, infrastructure as a service (IaaS) brings democratisation of hardware capabilities to companies in emerging markets, putting them on more-equal footing with other countries." The doors have opened to a global base of knowledge, of markets and digital marketing tools, he maintains. "This opens the door for more people to innovate and we're seeing more innovation from the emerging markets."

PwC's Jansen concurs that in five years, the software world will be completely different. Winners will become prominent, regardless of their country of origin. As enterprises look for cheaper, more-reliable software—even without it being rich with features—they will likely consider options they might not have previously.

As the world enters the next chapter of technological disruption led by trends in the Internet of Things, artificial intelligence and cloud computing, the software industry will witness new leaders emerging and the potential disruption of well-established players. Perhaps the biggest challenge for emerging-market companies, warns Neusoft's Liu, will be their ability to adapt. "The emerging market is changing and developing, [with] social patterns and business patterns continuing to break tradition," he says. "Software companies need to transform themselves from a purely technical company to one with a comprehensive view regarding its political, economic, social and resource issues."

Having those characteristics beyond technology will be especially important, because, even as vendors in emerging-market countries will capitalise on their advantages, they will still face competition from major software vendors in the developed world. Those established vendors will remain relevant and are likely to use their vast economic wealth and strong global network to fill the void in their portfolios through acquisitions. While software companies in emerging markets will certainly play a significant role in the transformation of the industry, either as standalone entities or a part of a bigger company, the major established software companies will maintain influence and power. Scale and revenue still matter.

Methodology

The PwC Top 30 Emerging Markets Software Companies is based on corporate financial statements (GAAP-based where applicable), other public sources and estimates for privately held companies, as compiled for PwC by the Global Software Business Strategies Group at International Data Corporation.

The ranking is based on year-to-year growth rate in software revenue from 2013 to 2014, the most recent year for which complete data was available. Due to variances in fiscal years, the results were 'calendarised' for both years.

Currencies were converted to US dollars using the average historical inter-bank rate for 2014 as the rate of exchange. The historical rates used can be found at www.oanda.com.

By "Emerging Markets" we mean markets less developed than North America, Western Europe and Japan. Most, but not all, of the companies on our list are based in countries on the Morgan Stanley Capital International Emerging Markets Index, which includes Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey and United Arab Emirates. Romania and Slovakia are not in the Index, but each has a company in the Top 30.

In the table on page 4, the Country HQ column refers to the operating headquarters in the country where the main corporate decisions are made. This may differ from jurisdictions listed for tax or financial reasons in corporate documents.

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Let's talk
If you have any questions about the Global 100 Software Leaders or would like to discuss any of these topics further, please reach out to us:

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