

TRANSFORM

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IT'S DIGITAL OR A DEAD END

Experts unite to issue stark warning to SMEs

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#SMEDigitalization





IN THIS ISSUE,
WE LOOK AT THE SUBJECT OF SME DIGITALIZATION

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Editor's Note:

WAKE UP AND SMELL THE COFFEE!

Gavin Allen

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The demand to face up to glaringly obvious reality is a familiar and typically blunt Americanism. But it's a global sentiment, too, when it comes to SME digitalization.

That's the theme for this edition of Huawei's *Transform* thought leadership magazine, which brings together a UN agency executive, a renowned economist, and an SME expert with the OECD, among others.

"Technology is developing so fast," said Zou Ciyong, UNIDO's deputy director-general, when we met at Barcelona's annual Mobile World Congress. "If you can't catch up with the trends, the gap will widen further."

"It drives me crazy," economist Phoebe Koundouri said of SMEs' reluctance to embrace tech.

"Science has the solutions. The money's there. [And] companies that digitalize faster will gain market share."

Yes, Covid pushed companies to digitalize including smaller ones: up to 70% of all SMEs increased their use of digital tools in 2020.

But despite this uptick, SMEs remain cautious. "The change has remained limited to certain forms of digitalization, suggesting a forced adaptation rather than a strategic transformation," observed Sandrine Kergroach, Head of SME and Entrepreneurship Performance at the OECD.

As my colleague Andrew Williamson explains, if SMEs continue to be "analogue laggards in an increasingly digital world," they will miss out on

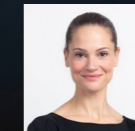
what the World Bank has described as the digital dividend: the ability to spend less time on administrative processes and more on value-creating activities.

Zou Ciyong suggests too many countries are ignoring what he calls the 70-80-90 issue. "SMEs generate 70% of the tax base that provides government revenue. They generate 80% of the technological innovation, and 90% of all employment. Even so, many countries don't do much to support SMEs' digitalization."

Professor Koundouri agrees. "Governments need to invest the necessary resources, and get people engaged," she says. This, she says, is crucial to SMEs' continued survival.

On a hopeful note, Ms. Kergroach points out that digital technology is closely linked to the green transition – and that cloud computing offers smaller firms the chance to increase digital capacity without many upfront costs. "The revolution may be underway," she says.

Also in this edition:



Professor Anna Schneider explains why digital skills should be a priority for every SME.



Kang Ning gives his take on why the Cloud is key to SMEs' success.



Hrvoje Smolic shows how even non-techie business people can harness the power of digital.



Dr. Min Zhou looks at why true digital transformation is so rare.



70 / 80 / 90: THE MAGIC PERCENTAGES

Zou Ciyong

Deputy Director-General
UNIDO



ALL GOVERNMENTS SHOULD KEEP IN MIND

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We can't waste time.
We have to raise awareness.

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Gavin Allen: Is digitalization top-of-mind for SMEs today?

Zou Ciyong: SMEs should be aware of the opportunities and challenges they are facing, and what kind of support they may need from the government. They cannot address these challenges alone.

Gavin Allen: What are the impediments stopping small businesses from embracing digitalization?

Zou Ciyong: Many SMEs are fighting for survival. First, they don't understand the trends in digitalization, or the impact it will have on their business. Second, they can't get loans from banks, because they don't have the necessary collateral. Third, many SMEs lack the skilled labor needed to implement the kinds of digital projects that could transform their business.

Gavin Allen: So, three gaps: knowledge, finance, and skills. What can be done to bridge those gaps?

Zou Ciyong: Governments should inform SMEs of the potential opportunities offered by digital technologies. They should also provide SMEs with some financing and capacity-building.

UNIDO and other international organizations are already trying to help in this regard. UNIDO advises governments on how to assess the status of the SME digitalization process and address existing challenges. In partnership with technology providers, we run capacity-building programs to support SMEs by informing them of the kinds of solutions they may want to take advantage of.

It's also important for the government and technology providers to expand the size of the market. That drives adoption by lowering the cost of applications and solutions.

Gavin Allen: So that's what policy makers should be doing. Are they doing it?

Zou Ciyong: Not every country is doing it. Different governments have different priorities.

It's said that SMEs generate 70% of the tax base that provides government revenue. They generate 80% of the technological innovation, and 90% of all employment. Even so, many countries don't do much to support SMEs' digitalization.

Gavin Allen: So the problem is a lack of understanding and a lack of resources.

Zou Ciyong: Yes. But we can tackle the problem step by step. In China, for example, local governments use Huawei Cloud as a platform. They buy space on the Cloud, then offer it to SMEs. This allows smaller companies to enhance their transaction processes and improve overall efficiency.

We need to expand this kind of partnership. Private tech companies, such as Huawei Cloud, could sell this kind of service to the government at a discounted rate. Governments could use tax revenue to purchase this cloud service, then offer it to SMEs, perhaps with some further incentives.

Gavin Allen: So we've got to get different parties working together.

Zou Ciyong: Yes. The challenge is resource constraints. Governments have many priorities, and banks can't necessarily subsidize lending to SMEs. We need to strengthen SMEs as a group, then link them to technology providers that

SMEs generate 70% of the tax base that provides government revenue. They generate 80% of the technological innovation, and 90% of all employment.



have developed solutions tailored to the needs of that group.

This really can't be done on a case-by-case basis. Technology providers have to address the specific concerns of SMEs – and, more specifically, SMEs in particular industry sectors. Small hotels, for example, will have different needs from small manufacturers.

UNIDO has a project to support governments in doing this. It's a digital readiness assessment, customized for SMEs and broken down into industry domains.

Gavin Allen: Are you optimistic about the future, or anxious?

Zou Ciyong: It's kind of a mix. I'm optimistic on the technology side. It's all evolving very fast. And because of this massive application, costs will drop significantly over time.

Also, governments are recognizing the importance of SMEs and the challenges of digital transformation. They are taking some measures – not at a big scale, but they are working towards this goal. We need to build on that success and encourage others to follow suit.

Gavin Allen: And why are you not optimistic?

Zou Ciyong: First, technology is developing so fast. If you can't catch up with the trends, the gap will widen further. That's why we can't waste time. We have to raise awareness, enlist government support, form SME associations, and broaden partnerships between SMEs and technology providers.

That's the first step. If you start with the first step, the next step won't be that difficult.



Many SMEs are fighting for survival. They don't understand digitalization trends, can't get bank loans, and lack digital skills.



Professor Phoebe Koundouri

An interview with the President
of the European Association of
Environmental and Resource
Economists

Market share & survival: WHY **SMEs** MUST EMBRACE DIGITAL

Gavin Allen: What does the digitalization of SMEs mean to you, and why is it important?

Phoebe Koundouri: Digitalization is crucial for the financial sustainability – the survival – of any business, big or small. It is crucial for Europe to get its SMEs digitalized because SMEs make up such a large majority of Europe's economy – more than 90%. [Editor's note: In the US, it is 99%.] So, we want the economy of Europe to achieve financial sustainability while achieving environmental and social sustainability.

To do that, you have to get all of the SMEs digitalized. If the digital transformation is implemented correctly, it will offer companies savings; it will offer them greater access to clients, to bigger market share. It will enhance their ability to integrate environmental targets, using digitalization to reduce their carbon emissions across the whole value chain.

At the same time, it will produce social cohesion, because digitalization offers open access, so you can offer your goods in a way that is more accessible, more equitable in its distribution, in the benefits [the goods] create. They can

reach populations that might be marginalized. So it's really very important.

One other element is the greater sustainability transition, which is about all 17 SDGs [the UN's Sustainability Development Goals]. It includes green, digital, economic growth, innovation, infrastructure, resilience, education, well-being, equity – all these aspects.

In order to achieve all these things, you need a science-driven background, a data-driven background. So digitalization makes easier the collection of information. You can use AI as well, and machine learning. With the collection of information, with the increase in sensors and satellite data, we have a wealth of data that is valuable for SMEs – not just for reducing their environmental impact or increasing their social impact, but in terms of lowering costs and increasing profits.

So the companies that digitalize faster, but digitalize in a way that allows them to integrate their other objectives – environmental, financial, economic – will be those that will survive, and will gain a bigger share of the market.

Gavin Allen: So you say, “As long as they do it correctly..” What would be the incorrect way of digitalizing?

Phoebe Koundouri: It has to be inclusive, but also with the right infrastructure and tools. Because if you’re increasing the need for computing power and other digital infrastructure, then you will really increase your energy consumption. So nowadays, digitalization basically increases the need for energy. And because energy has not been decarbonized yet, this has a negative impact on the environment.

The other way that digitalization can be done incorrectly is not to seriously engage in continuous



Gavin Allen

Editor-in-Chief
Huawei Technologies

learning, upskilling and re-skilling. Yes, make big investments in particular technologies. But companies need to be careful about how much infrastructure investment they do, vs. how much you invest in upskilling and re-skilling your personnel.

Gavin Allen: Digitalization is a potential drain on energy, but at the same time, can we say that sustainable economic development isn’t really possible without SME digitalization?

Phoebe Koundouri: It’s not possible. The difficult thing about sustainability is that it is a holistic, integrated, inter-disciplinary challenge, and we have no real skills in this area. Humankind works in silos; we specialize. We are comfortable where we are familiar with the data, with the models, with the technologies and how they are used. These silos need to be broken at different scales: at the family or household level, at the community level, in schools, and at SMEs as well. They have to digitalize, but they have to do so in a way that allows them to integrate all these aspects of sustainability.

And we know exactly what those aspects are: 17 [SDG] goals, 169 targets – we know what sustainable development is. And we know, in detail, how to break down the different companies and how this can come together in a holistic framework.

So the huge challenge is to engage in digitalization, engage in greening, engage in social cohesion, engage in economic development and positive growth and job market players in a way

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Companies that digitalize faster will gain market share.

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It drives me crazy because science has the solutions. The money’s there.

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that takes all these different aspects into account. So, what we say is no SDG can be implemented without the other 16 being implemented. They’re interlocked.

The scientists know how to do it. We have the tools. But they are so data-heavy that it’s a big challenge to massively deploy the knowledge to do this.

Gavin Allen: So, two questions. One: in light of all these vast challenges, are you optimistic? Two: where does the onus lie – on states? On businesses? Who is it that isn’t pulling their weight?

Phoebe Koundouri: The tragedy of sustainability is the tragedy of the commons. But there is a systematic way to address this tragedy.

First, you need to know what science tells you. What are the optimal pathways to follow when it comes to the technologies that you need. Then, you can bring in government to incentivize the part of this transformation that is publicly owned. If the transformation is publicly owned, it will be difficult for private companies’

interview



Professor Phoebe Koundouri

School of Economics, Athens University
of Economics and Business

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It's about understanding the danger of not engaging, and then making the necessary investments. This is crucial to your continued survival as a business.



We have a wealth of data that is valuable for SMEs – for reducing their environmental impact, lowering costs and increasing profits.



interest to capture the profits of the investment. So the part of the transformation that produces benefits that are public goods should be financed by the government, by taxpayers' money. The part that can be captured as private profit should be financed by private companies.

Gavin Allen: And by SMEs themselves? Or by companies like Huawei investing in them or providing a structure?

Phoebe Koundouri: Both. The big companies have a bigger role to play in public-private partnerships (PPPs). But SMEs have a big role to play as well – especially in Europe but also around the world – because they capture such a big percentage of the whole economy. They have to have a big role. That's why there are many instruments for PPPs with SMEs. So, the government puts up some money; the SME puts up some money. They produce a combined transformation from which they both can benefit.

For example, I've been going to COP [the UN climate change conference] for 25 years. The best COP of my life was the one in Glasgow, because it was the first time that renewable energy was acknowledged as being not just cost-effective, but profitable. It was becoming competitive with fossil fuel. Per unit, it is cheaper to produce energy from solar or wind than from fossil fuel. And that's even if you ignore negative externalities such as the toll on human health inflicted by the burning of fossil fuels.

Policies can make renewables even more cost-competitive by forcing polluters to pay for the health costs of fossil fuels.

It's the same for the circular economy. It will become more cost-efficient for companies to have a circular value chain than not.

Gavin Allen: What about really small businesses with only a few employees, which don't have the capacity to implement these sustainability-related reforms – at least not at the moment. How do we help them get to where they need to be?

Phoebe Koundouri: Even if you're an SME, and have low capacity with regard to new green digital technology, you can get cheap loans. If you want to invest in digitalization, you can get loans with very good terms. What is crucial here is a massive investment in upskilling and reskilling of the SMEs. Not so much to use the technology, because that will happen if they understand how much they have to gain and understand that their survival depends on their green and digital transformation. It's about understanding the potential, understanding the danger of not engaging, and then being provided with the financial means to make the necessary investments. The bottleneck is the understanding that this is crucial to your continued survival as a business.

Governments need to engage SMEs and say, "Here's an opportunity." Otherwise, the SME may think, "Well, this is a huge cost and I don't know what it's going to get me."



Governments need to engage SMEs. Otherwise, the SME may think, 'Well, this is a huge cost and I don't know what it's going to get me.'



Gavin Allen: So, regarding the future, are you glass half-full, or glass half-empty?

Phoebe Koundouri: Half-full! It has to be; there is no other way out. And it drives me crazy because science has the solutions. The money's there – globally, we have the money. But even if Europe and the US become climate neutral, we won't get anywhere unless everyone is on board.

So, policies, technologies, and financial tools. We need the optimum mixture of these three things. Governments need to invest the necessary resources, and get people engaged.

SOMETIMES, MORE IS MORE!

Gavin Allen: Do you think that the more digitized a company becomes, the better?

Kang Ning: Digitalization is the right direction for all organizations, big or small. I think everyone agrees with that.

But digitalization has unique value to SMEs, which may lack sufficient technology, manpower, and capital investment. Through a global network of digital infrastructure, SMEs can efficiently carry out international business. Through technologies and services, they can keep pace with emerging technologies such as AI. All this is in line with HUAWEI CLOUD's "everything as a service" mentality.

Gavin Allen: Some SMEs are cautious. There's budget constraints and resource limitation. How do you encourage them to embrace it?

Kang Ning: Digitalization could help SMEs run more efficiently and resiliently. For instance, SMEs can leverage digital services to improve R&D processes, customer relationship management, and employee experience. They could concentrate their resources on business growth and innovation, avoiding reinventing wheels. Digitalization also enables SMEs to better predict risks, make data-driven business decisions, and allocate resources with higher confidence.



Kang Ning

President, Huawei
Global Cloud Ecosystems

WHEN IT COMES TO DIGITALIZATION, SMEs ARE READY FOR CHANGE.

Aiming to accelerate digitalization of SMEs, Huawei Cloud has built more than 160 Empowerment Cloud Innovation Centers across China in collaboration with our ecosystem partners. SMEs could benefit from Huawei's decades of experience and best practices and enjoy tailored pricing plans to manage their costs. What's more, we partner with selected SMEs to co-develop digitalization solutions for the local industries. I've seen many cases of SMEs getting direct support in R&D, go-to-market, and global expansion from those innovation centers.

Gavin Allen: How else does HUAWEI CLOUD support and encourage SME digitalization?



Gavin Allen

Editor-in-Chief
Huawei Technologies

Kang Ning: First of all, I think SME digitalization is a critical part of our whole cloud business. No matter how hard Huawei Cloud tries, it cannot meet all the requirements of customers. We have to work with our many ecosystem partners to jointly fulfill the market's needs. SMEs normally are focused on local markets and well understand the local needs. Many tech startups could become the ecosystem partners of HUAWEI CLOUD and work with HUAWEI CLOUD to serve more customers. We invest various kinds of resources, supporting them to be technically more compatible and commercially scalable.

Huawei Cloud spans 78 availability zones in 29 regions around the world, covering more than 170 countries and regions, offering the best-in-class cloud services closest to customers' locations.

We have launched regional Startup Programs in Asia-Pacific, Europe, Latin America, the Middle East and Central Asia, and Africa, and allocated dedicated financial and technical resources to support startups. Moreover, we've made great effort in building local ecosystems and cooperating with like-minded local partners, including governmental departments, to synergize resources to empower the startups from and for the local communities.

Gavin Allen: Huawei has set up a start-up program. Why was that launched?

Kang Ning: Because we see the potentials of startups. They are the most innovative part of the economy. We

set up the Huawei Cloud Startup Program globally, committing to unleashing the creativities and potentials of startups. We want to partner with innovative teams, and startups are often the most innovative. And we think we can help them be more innovative. For example, we supply all these complex, fast-changing technologies as a kind of service, which could enable the startups to focus on solution innovation without having to invest heavily in R&D of the underlying technology or infrastructure.

And of course we understand they may need some financial support. Through the Huawei Cloud Startup Program, a single startup may receive free cloud services worth up to US \$150,000 and can start deployment on the cloud at a very low cost. But that's not the most important part. Our technical team works together with the startups to make sure they understand the cloud architecture and interface, and can use it correctly. Those financial and technical support allow the startups to focus on their core business.

Gavin Allen: Have you seen some good examples of small companies, small, medium enterprises really embracing digitalization?

Kang Ning: E-commerce has transformed many small companies. SMEs are proactive to embrace digitalization because they are sensitive to environment changes. They are more agile. Even small manufacturers are starting to use SaaS solutions to organize their supply chains and optimize their production.

Yingling Zhishang is a fashion design and manufacturing company in Shenzhen. Its resource allocation and scheduling



Digitalization is the right direction for all organizations, big or small.



used to rely on experienced workers. Working with Huawei Cloud, the company successfully digitalized its manufacturing lines. As a result, the operational efficiency improved by 10%, and the production standards have remained consistent

Gavin Allen: Even when they do commit the resources, even when they embrace digitalization, there is still that talent and skills challenge as well, particularly for a small company. How do you overcome that talent gap, plus the reskilling and upskilling issue?

Kang Ning: I believe everyone could become a developer empowered by the ready-to-use services on the cloud. For example, we also provide what we call the Astro. It's a low-code platform. You don't need to be a professional programmer, but you can still use the tools and services on the platform. By adopting cloud services, SMEs actually can focus on developing their core businesses, and don't need to build a tech team for IT infrastructure operations. Each year, Huawei invests over US\$20 billion in technology research. These consistent investments have

produced advanced cloud services, APIs and tools for developers, which allow SMEs, small startups to have equal access to stable, secure, agile and cost-efficient digital infrastructure as the big enterprises.

Second, Huawei Cloud has built a strong team of DTSE, namely Developer Technology Support Engineers, which is dedicated to escorting developers around the world throughout their software development journey, including the entire process of software technology selection, software design, development, and release.

Third, developers at SMEs can receive quality training at Huawei Cloud Academy where they have access to a large number of full-time and part-time instructors, online courses, online labs, and technical certification systems to enhance their digital skills. In addition, Huawei Cloud has authorized some institutions as its Learning Partners to help SMEs train and develop tech talents.

We strive to build a vibrant ecosystem, enabling our partners to grow and prosper with Huawei Cloud.

We see the potential of startups. They are the most innovative part of the economy.



Andrew Williamson

Huawei's Economic Adviser explains why governments should help SMEs digitalize, and looks at some of the techniques they're using to do it.



DIGITAL DIVIDEND CUT ? NOT IF YOU **PLAY** YOUR **CARDS RIGHT**

In 2016, the World Bank uncovered a worrying trend: big companies in the developed world were far more productive per employee than small and mid-sized enterprises (SMEs). The reason was straightforward: smaller companies weren't making sufficient use of digital tech.

Unlike their rich-world counterparts, SMEs didn't enjoy what the World Bank called digital dividends, the benefits and opportunities that came from adopting ICT. Generally speaking, digitalized firms grow faster, enjoy greater productivity, and get broader access to international markets. SMEs were found to be analogue laggards in an increasingly digital world.

The International Monetary Fund paints a similarly gloomy picture for Europe in particular. Smaller firms there saw a larger decline in productivity after the Great Financial Crisis than larger companies, and were hit harder by this decline, regardless of industry or economic sector.

Mind the [digital] gap

If you have a job, you are statistically likely to work for an SME, usually defined as a business with fewer than 250 employees. The United Nations estimates that formal and informal SMEs make up more than 90% of companies worldwide, accounting for 70% of total employment and up to half of global GDP.

Making smaller companies just as productive as large ones is therefore key to boosting economic prosperity and reducing income inequality. Digital transformation can close the gap.

Research by the University Consortium of Malaysia found that SMEs engaged in e-commerce saw productivity increase by 27%. And a study by Huawei in 2018 found that using data management solutions could increase SMEs' productivity by up to 60%.

Digitalization also breeds resilience. SMEs that digitalized

were twice as likely to find new business opportunities during the pandemic, according to Vodafone.

All of this happens because digital tech allows small businesses to spend less time on administrative processes, giving them more time for value-creating activities such as product development.

Closing the gap, and ensuring that SMEs receive their fair share of digital dividends is key to boosting economic prosperity and reducing income inequality. Accordingly, governments have strong incentives to help nudge SMEs toward digitalization.

In collaboration with Arthur D. Little, a consultancy, Huawei has reviewed some best-practice examples from around the world. Several are listed here.

Digital transformation can close the gap.



Bundle up.

Having an online storefront is not enough. To transform successfully, SMEs need bundled support, including e-payments, security, accounting, and e-marketing. Singapore's Start Digital initiative provides "digital packs" to help companies take the first steps, usually via banks and telecom operators. SMEs can choose two solutions, which they can use free of charge for up six months before starting to pay a monthly fee.

Use grants to make tech affordable.

The Hong Kong government gives SMEs vouchers to upgrade or buy new equipment or online solutions that boost productivity. It also has kiosks that allow SMEs to enter basic information about their business, then search eligibility criteria among all government funding schemes with instructions on how to apply.

Provide one point of contact.

The Acelera PYME program in Spain includes digital solutions, tools, financial information, and advice customized for SMEs.

Skill up your people.

Singapore's skills agency (under the Ministry of Education) provides training, workshops and digital skills development for SMEs.

Map out success.

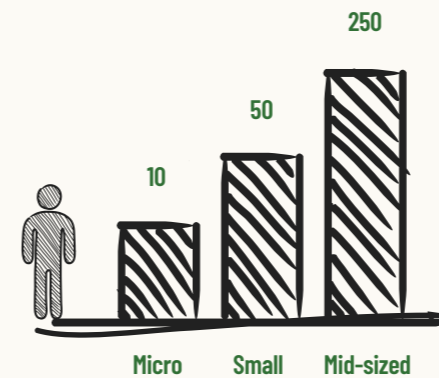
In Germany, Mittelstand 4.0 Competence Centres provide road maps with detailed guidance and close supervision to ensure that enterprises achieve their vision.

As noted elsewhere in this edition of *Transform*, SMEs generate 70% of government tax revenue, 80% of all technological innovation, and 90% of all employment. For governments around the world, these and similar programs should pay for themselves many times over.

These programs should pay for themselves many times over.



What is an SME, anyway?



- Mid-sized: Fewer than 250 employees
- Small: Fewer than 50 employees
- Micro: Fewer than 10 employees



Closing the gap, and ensuring that SMEs receive their fair share of digital dividends is key to boosting economic prosperity and reducing income inequality.



Functions made possible by digitalization

- B2G interactions
- E-booking and orders
- Enterprise Resource Planning
- Big data
- Social media
- Supplier-customer management
- Customer Relationship Management
- High-speed broadband
- Electronic invoicing
- E-commerce
- Cloud computing
- Radio Frequency Identification



TIME TO HIT THE MAGIC BUTTON



Hrvoje Smolic

No coding skills? No problem. No-code software gives SMEs the power of predictive analytics. *Transform* Editor-in-Chief Gavin Allen talks with Hrvoje Smolic, CEO and founder of Graphite Note.

What is Graphite Note and how does it work?

Gavin Allen: Give us a quick explanation of your company, Graphite Note. What does it do?

Hrvoje Smolic: The digital revolution means there is a lot of data out there. But to pull insights from it, we need data scientists doing their magic with machine learning and AI – a time-consuming, expensive process.

We are building SaaS [software as a service] products that help normal, “non-techie” business people run advanced data models just by clicking a few buttons. It’s no-code, predictive analytics software.

Gavin Allen: So it frees people from having to learn technical skills?

Hrvoje Smolic: Exactly. During different data science projects over the past 10 years, I realized I can generalize things. So I SaaS-ified my knowledge, and I generalized stuff so non-techies can take a shortcut. They don’t need to write a single line of code. They are just pressing a few buttons. Press the magic button, run the model, and they get different predictive powers and insights based on their data.

The power of predictive analytics for SMEs

Gavin Allen: Once they hit the magic button, what does that do for SMEs?

Hrvoje Smolic: Amazing things. For example, many SMEs are digitalized. They’re doing e-commerce and suddenly, they have tons of data. But if you’re not a technical expert, you don’t know what to do with it. With our software, you’ll know exactly what to offer, to which customer, at what time, in order to increase the odds that they’ll buy something. If you provide a service, you can predict who might cancel, so you can reach out to them before they do.

So, predicting future outcomes based on historical data.

We give non-techies a shortcut. They don’t need to write a single line of code.



Overcoming skepticism: how to encourage SMEs to embrace digitalization

Gavin Allen: You're making it easier for SMEs to digitalize. But how do we get more businesses to go that route?

Hrvoje Smolic: When someone is skeptical or scared of change – or costs – you present them with a Before and After version of their world. You tell them a true story about the benefits they will enjoy.

If they're struggling with Problem X, you say, "Okay, but I can solve your problem with these elements, and the cost is not as extreme as you are expecting. And afterwards, you will be able to do many more things."

Gavin Allen: Does that potentially kick-start innovation? If you're removing burdens from a company, you're giving it more time to innovate – or to develop the skills needed to do so?

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People are both curious and scared. But if you remove the fear, the curiosity will remain.

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Hrvoje Smolic: Good question. Yes, people are very curious, and usually, like we said, scared. But if you remove the fear, the curiosity will remain.

For example, you don't need to know number theory to do basic arithmetic. With our software, you don't need to know everything that's under the hood, but you'll be able to have a conversation about predictive analytics. You'll be able to say, "I can predict such-and-such a future outcome, based on historical data." I mean, that kind of conversation is not hard to have. So people will remain very curious when you remove the scary part, and will become more knowledgeable.

The role of big tech companies

Gavin Allen: What role can companies like Huawei play in enabling digitalization?

Hrvoje Smolic: To encourage SMEs that aren't ready to make the digitalization leap, big companies can first provide digital access, and then training and education.

Companies like Huawei provide access to the digital world: the infrastructure, know-how, technology, software, and cloud. But that's not always enough. They also can (and should) provide education and training, to remove that "I'm scared of my new transformation" feeling. You can show them how easy it can be. That's essential.

Gavin Allen: Are you positive about the growth of digitalization amongst SMEs, such a critical sector to any economy?

Hrvoje Smolic: Very positive. Over the past five years, I've often had to explain to people what Graphite Note is trying to do. Today, they are asking me, "Hey, Hrvoje, can you predict my sales?" So they know about what's out there. They're reading about it. It's like a rising tide for all of them, and all of us.

Gavin Allen: So five years from now, what will Graphite Note look like? What's your dream scenario?

Hrvoje Smolic: We are on the forefront to provide no-code machine learning or predictive analytic solutions. I think five years from now, basically every company, just like they have Excel or Power Point today, will have some form of no-code predictive analytics.

It's really not enough to know what has happened in the past, like, "What are my best-selling products?" You've got to know, "What are we going to sell based on historical data?" You're predicting future outcomes.

When everyone starts doing that, there will be a huge rise in demand for the software Graphite Note is building. So I see a bright future for us.

Five years from now, every company will have some form of no-code predictive analytics.

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EVERYONE
WILL HAVE A
ROBOT
CO-WORKER



Tiensoon Law

The Chief Innovation Officer at Innov8tif says the workplace of the future will still have humans. But robots will handle quality control.

In Kazuo Ishiguro's futuristic novel, *Klara and the Sun*, children have robot companions powered by AI.

Tiensoon Law believes that soon, we won't think of AI robots as a transformative technology. Instead, we'll think of them as colleagues.

"When my children grow up and are in the workforce, everyone will have a robot co-worker," he says. "The robot's task will be to ensure that human outputs meet a certain quality standard."

Law is the Chief Innovation Officer at Innov8tif, a Malaysia-headquartered provider of AI-based digital authentication solutions for telecoms, banks, and insurance companies.

He says that since he co-founded Innov8tif in 2011, the very definition of digitalization has evolved. "Today, digitalization is about how sustainably your company can adapt to continuous, inevitable changes in the business environment."

Authentication nation

Currently, Innov8tif uses AI to authenticate users who buy pre-paid SIM cards at retail shops and airports through 24/7 self-service channels. Malaysian law requires that everyone register using their real name with a valid ID, a situation that creates opportunities for fraud unless strong authentication measures are in place.

Years ago, when Malaysian consumers only bought pre-paid SIMs through a retail shop (a dealer), the dealers would make photocopies of customers' IDs as part of the SIM activation process. Telcos often paid bonuses to dealers who sold a lot of SIMs, so the dealers had an incentive to inflate their sales figures. Under that system, unscrupulous dealers could pre-register extra SIMs, using a customer ID they had photocopied.

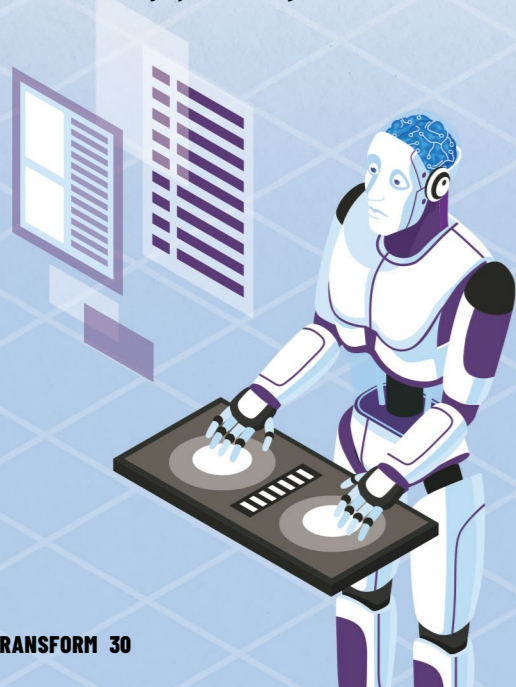
Due diligence at 2:00 a.m.

Regulations haven't changed much since then, Law says, but businesses have altered the way they perform due diligence on customers. "People used to just walk into a shop and hand their ID to the shop clerk. Today, everything is done electronically by the end user. For example, passengers arrive at an airport at 2:00 in the morning and want to buy a local SIM card right away. How do you confirm their identities in a way that complies with the law?"

The answer, perhaps not surprisingly, involves AI, which makes a positive ID of the applicant by scanning her face, then authenticating her identity document by examining its security features with computer vision, a type of artificial intelligence that allows machines to identify and label objects.

"That's our main business focus today," says Law. But Innov8tif has gone beyond that first user touchpoint - known in the trade as "e-KYC," a digitized version of Know Your Customer.

Once you've got your phone, for example, let's say you want to change your mailing address. You've now moved from KYC to



customer ID assurance. That is, the provider must continuously ensure that the customer is still who he claims to be. This is crucial for bank transfers and other transactions where security is paramount. For example, when a customer asks to change the number of a trusted mobile device used for two-factor authentication, the operator has to know that it's really the customer who's requesting the change.

SMEasy

Law is in the tech industry, but he says all businesses can benefit from digitalization. And it doesn't have to be hard, even for small enterprises. The first step is to digitalize non-core activities.

"If I run a pest control company, there are certain things that can easily be automated: issuing quotations, filing employee expenses, and mobile workforce management, to name a few. Lots of available apps already perform these tasks well."

But whether SMEs actually embrace digitalization may depend on intangible factors such as mindset.

Law notes that several years ago, Innov8tif was thinking about expanding into Australia. After incorporating an entity in Sydney, they did some market research and found one big difference between Australian and Malaysian businesses: small Australian companies were a lot more willing to pay for cloud applications and solutions than were their Malaysian counterparts.

Before 2005, you had to hire a developer. Now, you can go to GoDaddy and have a web site in days.



"At the time, Malaysian customers were willing to pay half a million dollars to open a storefront," Law says. "But they wouldn't pay ten dollars per user to digitalize."

That situation has changed, in part because of Covid, which some have called the world's Chief Transformation Officer for companies otherwise reluctant to embrace digital tech.

"Some of my peers in Malaysia's SaaS startup arena saw a turning point in business sustainability during the pandemic," says Law. "Not only was there a widely anticipated boom in e-commerce, but there were also booms in online subscription-based CRM (customer relationship management) and HR (human resource) software."

He notes that a lot of things can be digitalized without investing in web development. "Before 2005, if you wanted a web site, you had to hire a developer. Now, you can go to GoDaddy or WordPress and have a simple web site within days."

And increasingly, "no-code" applications allow small business owners to create simple solutions, without knowing how to write a line of code.

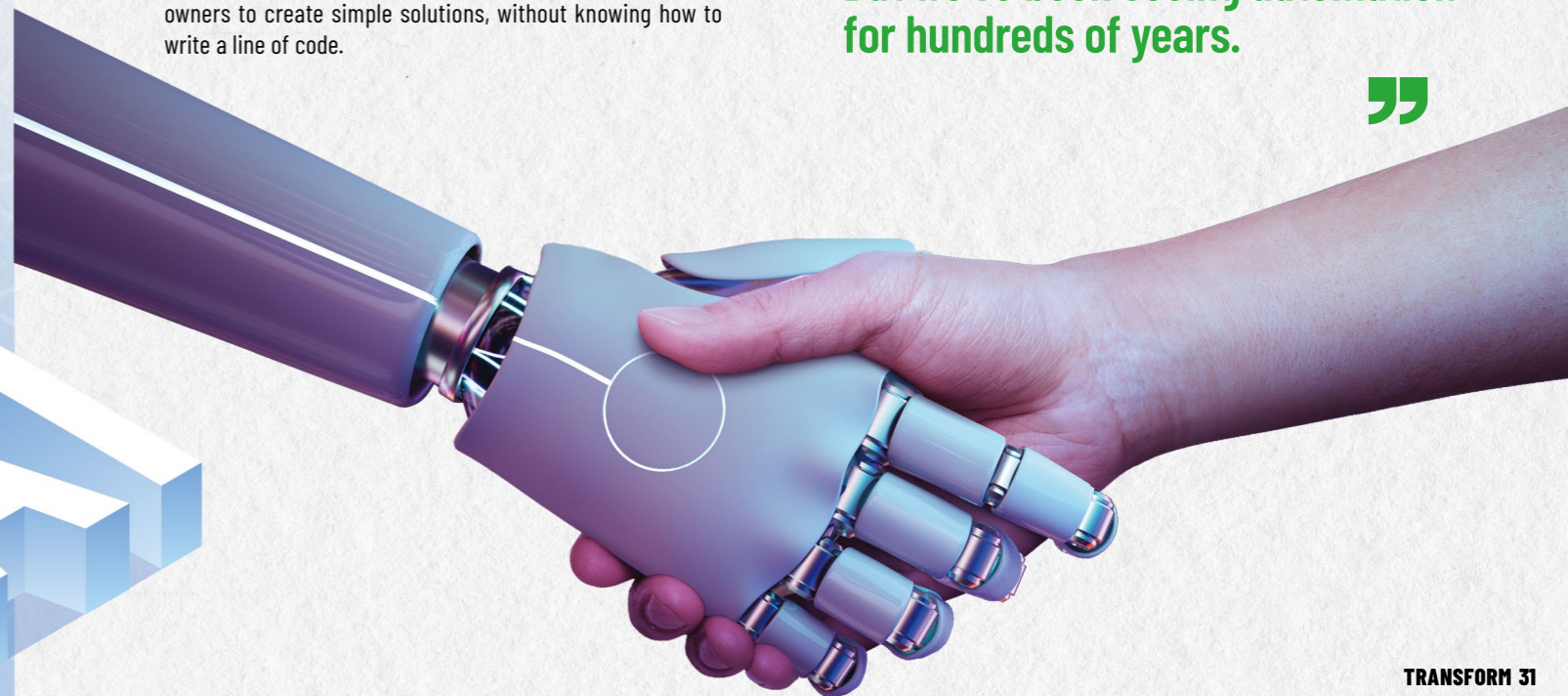
Human help wanted?

About eight years ago, Silicon Valley inventor and AI expert Jerry Kaplan wrote a book, *Humans Need Not Apply*. It predicted that soon, "synthetic intellects" and "forged laborers" would begin changing the workforce in unpredictable ways.

But Law doesn't think digitalization necessarily means AI or other technology will take over human jobs.

"In my field, we've used AI for some time now," he says. "Facial recognition requires AI. So does document authentication. There's this ongoing question of, 'Does AI kill human jobs?' But we've been seeing automation for hundreds of years."

There's this ongoing question of, 'Does AI kill human jobs?' But we've been seeing automation for hundreds of years.



BEING DIGITAL FIRST



Chuang Pei-Han

A talk with Chuang Pei-Han
CEO and Founder of Morpheus Labs

Tell us about Morpheus. What do you guys do?

Morpheus is headquartered in Singapore, with a technical development team in Vietnam. We provide a “low-code” development platform, which gives our customers without coding experience everything they need to build, test, and launch their own Web3 apps.

Web 3 – what does that mean, exactly?

The web is a more complicated place today than it was 20 years ago. Back then, you’d create a site by writing your own code. Then came WordPress, an open-source content management system that allowed novices to make simple sites using templates.

The next phase, Web 2.0, allowed more interaction and collaboration among Internet users. Mobile became a thing; so did e-commerce.

But again, you had to write your own code, starting from the first line. Then, Shopify was founded to help companies do e-commerce.

Web 3.0 gives us more advanced technologies, like blockchain. There’s a multitude of applications and they’re harder to create. The Morpheus SEED platform gives companies templates that let them fast-track their Web 3.0 development.

For example?

We give customers a faster, simpler way to develop blockchain applications. For example, we have a low-code workflow that will suggest and generate smart contracts suitable at various development stages.

Or we can generate an NFT, a non-fungible token. That’s a unique digital asset; nothing else like it exists, and it can’t be copied.

Think of the key-card you get when you check into a hotel. Thousands of cards get lost each year, and because they can be copied, each loss is a potential security threat for the hotel and its guests.

Web 3.0 gives us more advanced technologies, like blockchain. There’s a multitude of applications, and they’re harder to create.

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Plastic cards can be replaced by NFT access cards. You can unlock your hotel room door with a digital card that is uniquely tagged to your identity on your smartphone. NFT access cards can’t be copied, and they automatically expire when you check out.

But in order for a device or any kind of hardware to accept these tokens, the business operator needs to create an application that consists of a front-end dashboard for the user.

Any business that wants to provide smart locks must develop a software platform to issue NFT cards. Morpheus helps them build such a platform by providing a suite of easy-to-use, low-code software development tools.

How’s business?

Good. Could always be better, but good. (Laughs) We are grateful to have doubled from seven to 16 in the last two years. Covid actually helped us by forcing us to be more nimble. Meanwhile, some of our competitors have folded.

Describe your relationship with Huawei.

We first benefited from their Spark Accelerator program, which offers funding, mentorship, and other support to entrepreneurs. We are now their premium reseller of cloud services. At the same time, we are exploring going to market with vertical solutions we are currently co-developing, such as the NFT access card I mentioned earlier. We are excited about this deepening partnership and collaboration.

Any thoughts on how SMEs should use digital technology?

SMEs can benefit from being digital-first. But they need the right tools.

Creating an idea is hard; creating an innovative idea is even harder. Then, once you’ve done the hard work of coming up with an innovative idea, you have to search through a lot of tools to bring the idea to fruition. Doing that requires that you understand how to use the tools. If they’re hard to use, that pulls your focus away from the business. We give you the tools you need to focus on your idea and make it a reality.

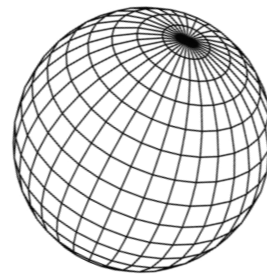
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Once you’ve done the hard work of creating an innovative idea, you need tools to bring the idea to fruition.

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GAIN A BUSINESS EDGE: EMBRACE THE ERA OF THE DIGITAL WORKER



Wang Guanchun

Wang is Founder and CEO of Laiye, a leading player in intelligent automation. Laiye uses technologies such as robotic process automation, compositional AI and intelligent document processing to help develop digital workforce solutions - such as chatbots for customer interaction and invoice processing and tax filing tasks for finance teams.



Wang Guanchun: Basically, our technology helps customers increase their productivity and efficiency, while lowering their costs. We emphasize the synergistic relationship between human and digital workers. Actually, the term digital worker can mean either human workers skilled in using automation and AI tools. But it can also refer to a software robot developed by a human worker that could simultaneously work on multiple tasks together with the human workers.

So it's really a synergistic collaboration between human and digital workers. That's what we are advocating. That's what we think will be the norm for future-oriented organizations.

Gavin Allen: ChatGPT has grabbed a lot of attention. Some people are concerned about it. What's your response?

Wang Guanchun: We're very excited about ChatGPT, and other large language model capabilities. When Laiye was founded seven years ago, our original idea was to build a chatbot as powerful as ChatGPT. But the technology was not there yet.

I think it's obviously going to create a lot of value for the entire ecosystem, because companies like OpenAI specialize in making

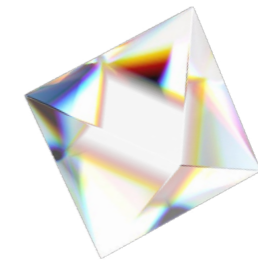
large language models better and better. But they will not think very carefully about what are the best use cases, the best scenarios to apply this technology.

This creates opportunities for companies like Laiye. We can build a middle layer, an automation tool that allows professional developers and student developers to build intelligent automation projects for enterprise customers. I think this will accelerate innovation in the entire digital ecosystem.

Gavin Allen: So, strategically, what's your next move? Where are you directing your energies?

Wang Guanchun: Right now, our customers are adopting "single-point" automation projects: chatbots for customer service, robotic process automation bots for manufacturing.

But I think automation will be even more prevalent. Laiye will strategically incorporate these capabilities into our existing product lines, potentially unifying all this automation AI capability into one single platform. So no matter what type of tasks our customer or the developer wants to automate, they can use our tool to very easily develop and deploy it.



We see a synergistic collaboration between human and digital workers. We think this will be the norm for future-oriented organizations.



Gavin Allen: What can Huawei Cloud and companies like Huawei Cloud do to help companies such as yours?

Wang Guanchun: Huawei Cloud can help us on multiple fronts. I think Huawei Cloud has already deployed their computing and storage in a lot of geographies. We need to make sure the products we deploy on the cloud comply with local laws, for

example, GDPR in Europe. By deploying our product on Huawei Cloud, this will automatically allow us to be very friendly to the local customers and local regulations.

Also, Huawei has a co-sale program. By joining the partner network, Laiye can sell into new markets in Latin America: Mexico, in Brazil, particularly. Without Huawei's help, I don't think we will even have operations there.

Gavin Allen: What do you say to an SME that is hesitating about how far to jump into digitalization, and what it can give them as a result?

Wang Guanchun: In today's world, it's actually to the SMEs' advantage to fully embrace digitalization. In the past, when people talked about digitalization, they might be buying, you know, CRM tools from Salesforce, or ERP tools from Oracle, or SAP. Those tools are very expensive, and only large enterprise customers can afford them.

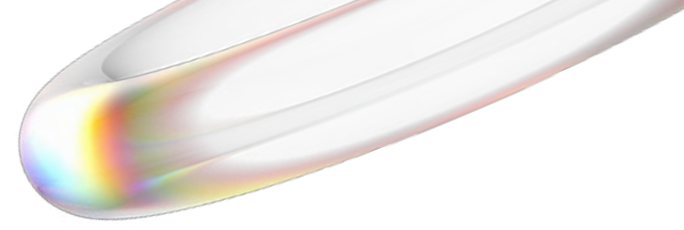
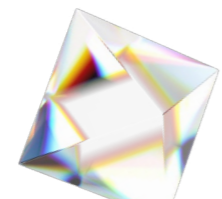
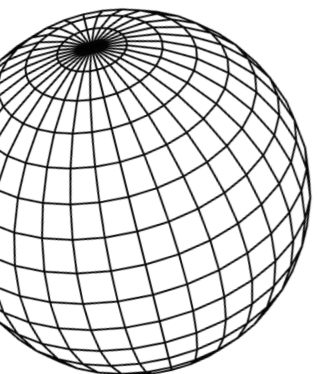
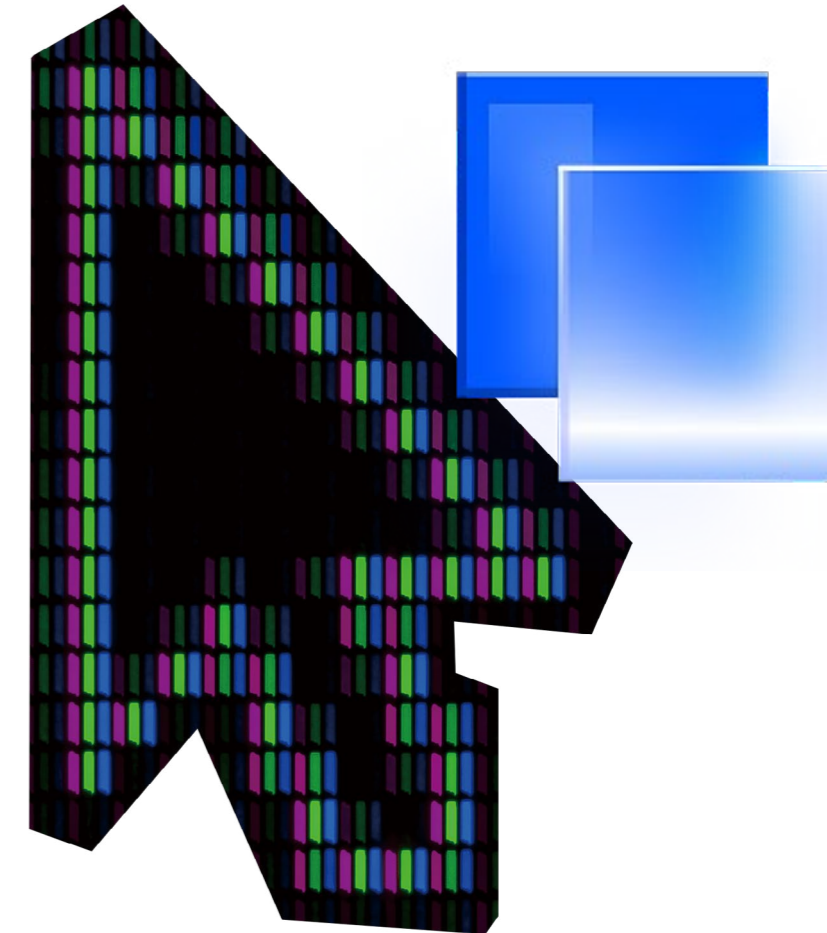
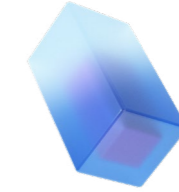
But today, digitalization is more about leveraging automation and AI tools to build digital workers. This is going to create even more value than just allowing you to record all the data. It's about using those data to create business value. That's the key.

So even if the SMEs only use Excel or Word, they can start building digital workers with all the new tools available like ChatGPT, or the intelligent automation tools Laiye developed for them.

And they can really adopt a "digital worker first" approach to challenge those incumbents, those bigger companies, because they can have an organizational structural advantage. Their workforce will be more productive if they have a lot of digital workers working for them. They will have a cost structure advantage. They will actually have a productivity advantage over the more established players.



Even if the SMEs only use Excel or Word, they can start building digital workers with all the new tools available like ChatGPT, or the intelligent automation tools Laiye developed for them.



SPACED OUT



Su Meng

A graduate of MIT and Harvard, Su Meng says his company, Origin Space, will help humankind make the transition to living and working on the moon.

Gavin Allen: Can you briefly introduce yourself and tell me a bit about Origin Space?

Su Meng: I'm the founder and CEO of Origin Space, a commercial aerospace company whose long-term goal is to do space mining. We try to find resources away from Earth, such as on asteroids – small, rocky bodies nearby – and on the moon.

In the future, people may go to the moon for the long term and set up permanent stations there. They may even build villages with hundreds or thousands of people. So you have to really take advantage of the in situ resources on the lunar surface.

We try to build spacecraft to carry stuff from the earth's surface to the moon. While doing that, we also build space telescopes, which can map the lunar

surface, and the asteroids moving around the earth.

Gavin Allen: It's a bit like a sci-fi movie.

Su Meng: When I was a PhD student at Harvard, people thought this might happen in 20 years or more. But I think people will take advantage of resources in space and build a space industry by the end of this decade.

Gavin Allen: When you talk about space resources, do you mean metals, non-metals, water?

Su Meng: Silicon, metals, and other resources will be important. But within this decade, our first priority is water. That's because water is made of

hydrogen and oxygen. These are propulsion fuels. We have to fuel our spacecraft before it can do anything, just like oil.

Gavin Allen: How does digitalization feed that or fuel that exploration?

Su Meng: By launching hundreds of satellites, we monitor the sky and find all the possible resources, and all the possible places where we will launch spacecraft later to get those resources out. We also have hundreds of satellites which monitor the earth just like a CCTV camera.

Gavin Allen: Some SMEs hesitate to fully embrace digitalization. What's your message to them?

Su Meng: I think it depends on the industry. But it's certainly affecting aerospace. With computers, with AI and all these new tools, we have totally new ways to design a spacecraft. You don't have to test the satellite with vibration in the vacuum chambers hundreds of times. You collect measurement data, then do a lot of simulations, use the right software and you can

Silicon, metals, and other resources will be important. But within this decade, our first priority is water.



do much more optimized design than before. So digitalization is really helping this field.

Gavin Allen: So you're basically saying we should be excited by digitalization. This is the future and there's no point in resisting it.

Su Meng: Exactly. It's more than exciting. You know, my PhD advisor and postdoc supervisor are now AI experts. They basically moved from being astronomers to being AI scientists. My supervisor at MIT, Max Tegmark, even wrote a book, called *Life 3.0*. The subtitle is, "Being human in the age of artificial intelligence."

When I was at MIT 10 years ago, and he maybe had just started writing this book, he mentioned that AI was going to change the world.

I felt like this was science fiction—it's not going to happen within my lifetime.

But now, it's like, I realize he was basically talking about OpenAI [Chat GPT] before it even existed. Yeah, it's amazing to see how things go.

We try to build spacecraft to carry stuff from the earth's surface to the moon.



START-UPS SHOULD BE **WARY OF ChatGPT,** BUT EMBRACE IT ANYWAY



Allen Zhu [Zhu Xiaohu]

Managing Director and the major partner at GSR Ventures, a global venture capital firm focused on early-stage tech companies. Active for 18 years, GSR has provided first-round institutional funding for startups including Didi, the ride-hailing company, Ele.me, the food delivery company, and Xiaohongshu, a social commerce media platform.

We're at the Huawei Cloud Accelerator event, and you're going to speak tonight. What's your headline message?

Embrace AI, embrace ChatGPT immediately. Otherwise you'll be out of business very soon.

Just like 10 years ago, when mobile phones were first launched, at the time you had to be "mobile-first." Now, I think you have to be AI-first. You have to embrace ChatGPT, or what we call generative AI.

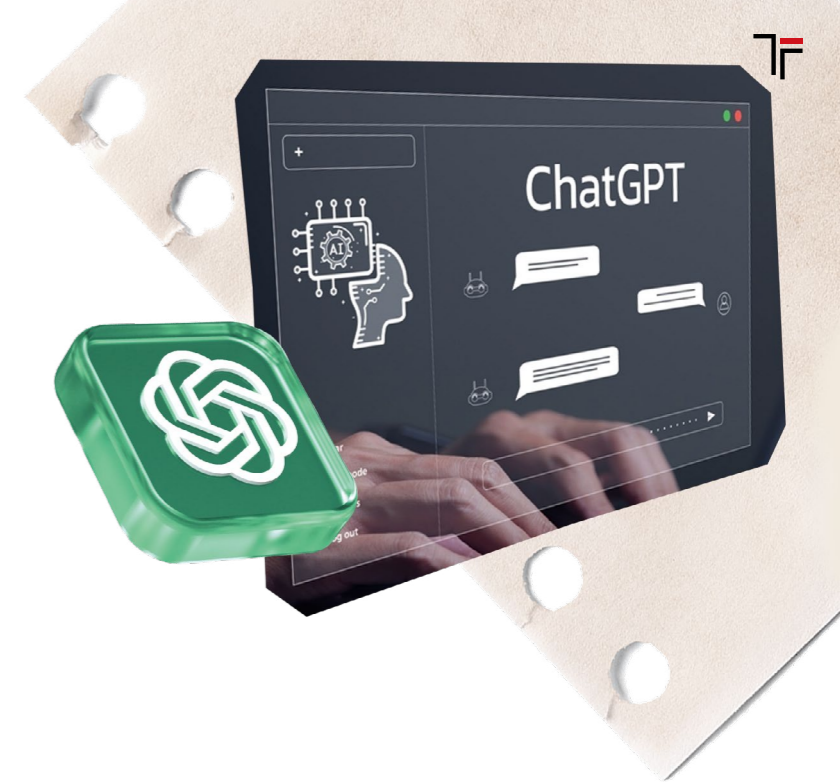
Is it ChatGPT in particular? Or lots of different kinds of AI?

Different kinds. For the past few years, most have been analytical AI, like vision and video recognition.

Analytical AI can act according to certain algorithms. But generative AI, like ChatGPT, is very different. It can create a lot of things based on a large model. It's a totally different branch of AI, and more powerful. It can do many more jobs.

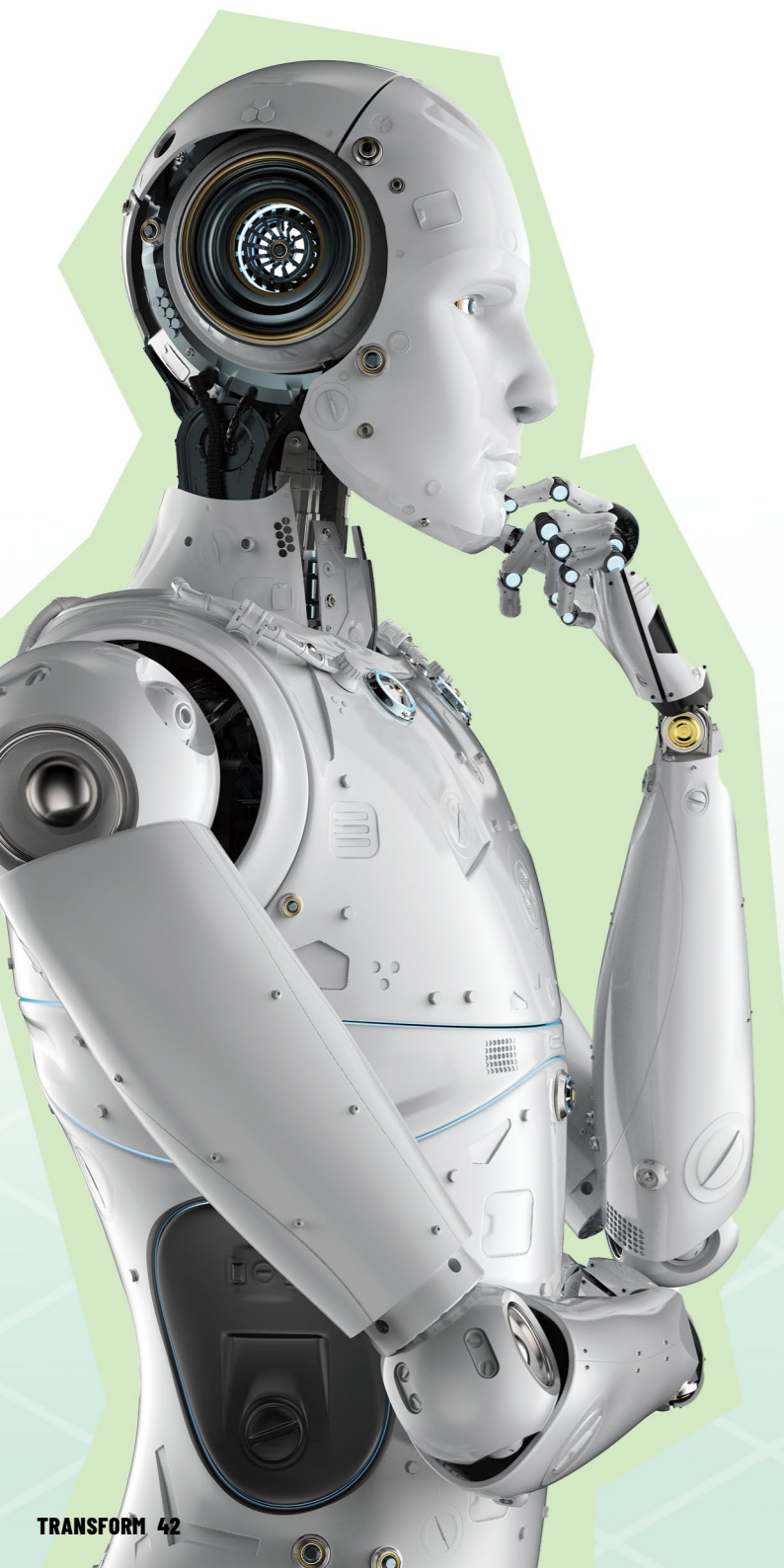
Does this really apply to every business? If I make chocolate chip cookies, do I need AI for that?

For cooking food, I think it's still early. I'm saying it will replace all the white-collar jobs, like drafting documents, taking pictures, taking short videos, even writing code. I think a majority of work will be done by AI very soon.



Embrace AI, embrace ChatGPT immediately. Otherwise you'll be out of business very soon.





What's the significance of being able to use AI to write code? Will it get done better, faster than humans can do it?

Much faster getting it done. Just tell the AI what kind of program you want. If you want to build a Snake game, the AI will do it for you automatically. It will check on Google about what a Snake game is, and will find the right code to do that.

Today, I think ChatGPT can improve the programming efficiency of software engineers by 100%. I think in three years, probably it can increase the efficiency by 300 to 500 times, which is really scary.

Will small companies and SMEs benefit, or will the big companies just come in and outcompete them?

Good question. I think every company can benefit from ChatGPT. For example, we [invest in] a company with a hundred employees. The HR Department had what they called an employee relationship manager to answer questions. ChatGPT learned all the answers in two days and the manager was fired.

ChatGPT can improve your internal efficiency immediately. But it's so powerful, the value you can add to ChatGPT is very, very slim. That's why I think it's unfriendly for new startups. It's good for the incumbents. Uber, Priceline, and others – with plug-ins, they can easily embrace generative AI.

So AI and ChatGPT are not hype.

No, it's very, very real. Five years ago, it was only AlphaGo, which can only play chess, play poker. That's hype. But now, today, they can really improve the productivity by 10X already. Maybe in three years or five years, we can improve the productivity by another 10X.



“

I think within three years, ChatGPT will improve the programming efficiency of software engineers by 300 to 500 times.

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How can Huawei Cloud help small companies and startups expand into global markets?

I think Huawei Cloud can add a lot of value to SMEs to go global. China has many smart software engineers who are working very hard. But the single biggest challenge for them to go abroad is a go-to-market strategy. Huawei has experience and domain know-how in this area and has successfully expanded to countries all over the world. I think that can help startups a lot.

DIGITAL TRANSFORMATION, NOT DIGITAL DUPLICATION

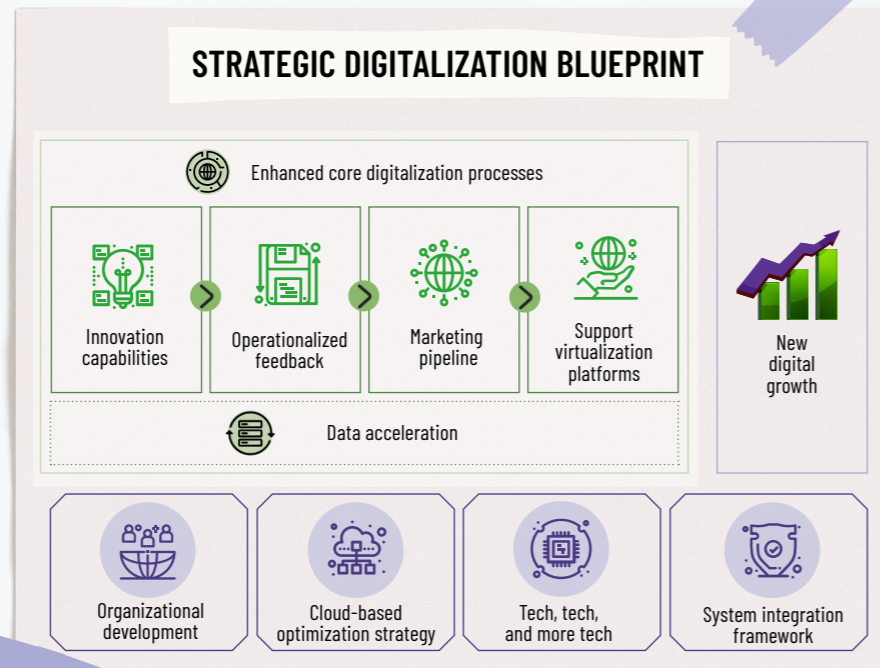


Min Zhou

CEO of Thingple, a digital transformation company dedicated to delivering digital solutions to modernize manufacturing operations through intelligent logistics and smart warehousing.

Digital transformation is all the rage. Using ICT (information and communications technology) to transform business processes is now a global phenomenon spanning industries and geographic regions.

Organizations have set up their own digitalization departments and created positions such as the Chief Digital Transformation Officer. For guidance, many rely on consulting firms, which happily charge high hourly rates to develop “strategic digitalization frameworks” that often look something like this:



Let's get digital, digital

Many companies start their digital transformation by buying software: Laboratory Information Management (LIMs) systems for R&D, for example, or manufacturing execution systems for factories, plus various types of customer service software.

But what does all this software do? Captures data from business practices, sure. Makes it all permanent, accessible, and sharable – yes.

But will it fundamentally change business practices? Will it, as the consultants like to say, add value to the end product or service?

Too often, digital transformation is an easy sell that does little (or nothing) to change the status quo.

What are we trying to transform?

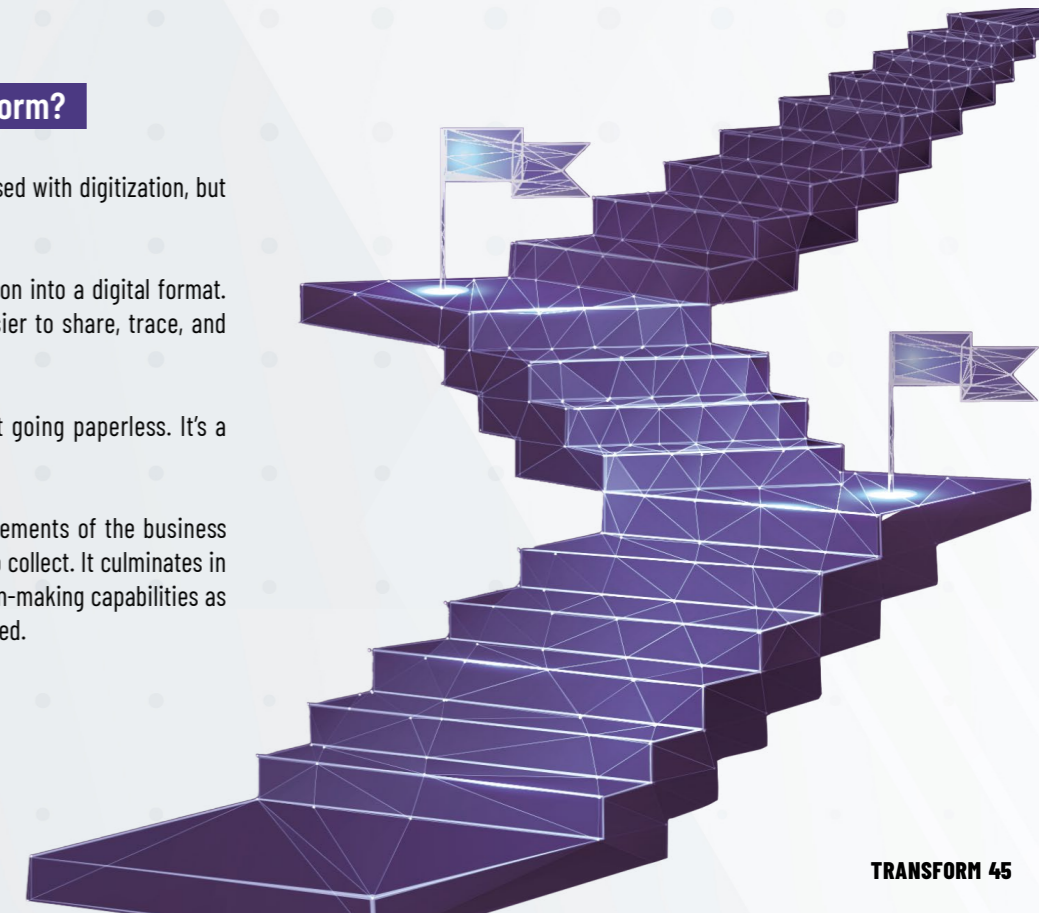
Digital transformation is frequently confused with digitization, but they're not the same thing.

Digitization is simply converting information into a digital format. This has value: it makes information easier to share, trace, and analyze.

But digitalization shouldn't just be about going paperless. It's a trajectory or path.

That path starts with getting different elements of the business interconnected, so data becomes easier to collect. It culminates in the organization's acquiring better decision-making capabilities as a result of analyzing the data it has collected.

Too often, digital transformation is an easy sell that does little (or nothing) to change the status quo.





We believe that less than 5% of “digital solution companies” can deliver actual digital transformation. Most offer plain digitization.

So, what does the real thing look like?

The strategic use of real-time data and wireless connectivity is key to transforming the way a warehouse is run. For example, Thingple’s electronic warehouse management system (E-WMS system), doesn’t just digitize warehouse stock data. It simplifies and replaces previous operational processes to track goods flowing into and out of a busy warehouse.

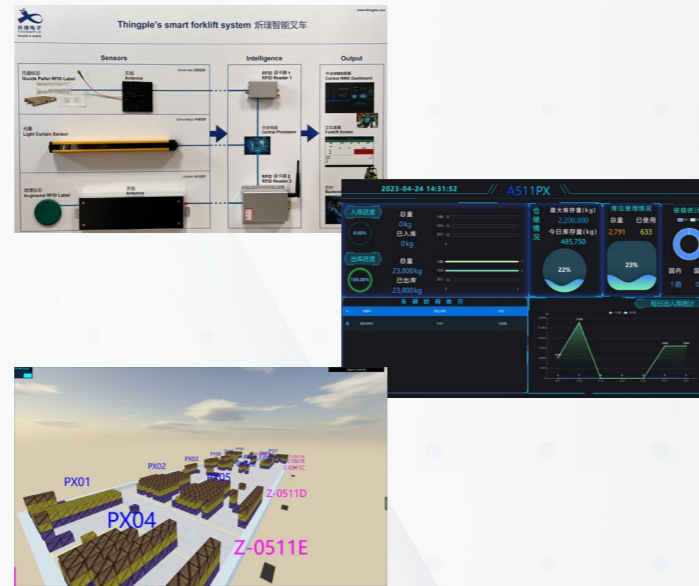
Instead of laboriously scanning barcodes for every item that enters or leaves, an RFID system wirelessly (and automatically) reads entire loads as they come and go.

Instead of physically searching for space in a large warehouse, operators need only view the 3D digital twin of a constantly-updated stockpile in the warehouse to find vacant slots.

With real-time data on hand, an AI system directs forklift operators to pick the right goods every time – and advises on timely movement of goods to avoid expiry.

Real digital transformation, in short, should lead to increased efficiency and productivity, fewer manpower requirements, less waste, and less human error.

Less than 5% of 'digital solution companies' can deliver actual digital transformation.



Digitalization is about changing how business gets done

Ironically, digital transformation isn’t really about technology. Rather, according to the *MIT Sloan Management Review*, it’s about “how technology changes the conditions under which business is done, in ways that change the expectations of customers, partners, and employees.”

And here’s the cruel truth: most digitalization efforts fail – 84% of them, according to one estimate.

Weighed down by the need for copious data entry, and hobbled by a lack of interoperability across platforms, most digitalization projects don’t deliver the hoped-for transformative results.

For that reason, we need to look at digitization differently.

Start with a clean slate and ask what’s the best digital tool for revolutionizing your business operations. Can you leverage advances in sensor technologies, computing, automation, or AI to improve your operations – in ways that change the expectations of your customers?

Since digital transformation’s purpose is to help improve businesses in meaningful ways, DX companies with deep industry insights/experience tend to offer better, more targeted solutions. Cloud infrastructure providers like Amazon Cloud or Huawei Cloud, for example, can partner with industry-specific solution providers to offer insightful value to industrial clients.



Digital transformation isn’t really about technology.



The question should not be, “How do I digitize my company’s operations?” but, “How can I improve operations through technology? How to use tech to enhance efficiency, output, and added value?”

So if you want to digitalize, start by figuring out how technology can help you do those things.

Avoid digitization – the mere conversion of paper into bits and bytes – and the adoption of digital technology for its own sake.

DIGITAL TRANSFORMATION BECKONS BUT IT'S FIRST COME, FIRST SERVED

Sandrine Kergroach

Head of SME and Entrepreneurship
Performance, Policies and
Mainstreaming
OECD Centre for Entrepreneurship,
SMEs, Regions and Cities



The revolution may not be televised,
but it will be digitized.
SMEs need to get onboard fast.

“

Smaller firms often
lack the skills,
awareness, and
capacity to enact
the changes
required by digital
transformation.

”

Digitalization can help SMEs expand beyond their traditional markets and partner networks, while reducing costs across business functions such as communications, administration, and marketing.

Yet, digital uptake by SMEs remains a challenge. Smaller firms often lack the skills, awareness, or internal capacity to identify the best solutions for their business, or to operationalize the changes their digital transformation would require.

SMEs usually start their digital journey with simpler technologies such as social media or basic web page creation. The gap between their capabilities and those of large firms widens as technologies become more sophisticated, or when a certain minimum scale is needed to amortize the costs of the transformation.

SMEs lag broadly in adoption of digital technologies. The complexity they struggle with results from the different trajectories their transformation can take, due to the different technologies that are available and different applications they support, as well as the different types of business SMEs operate. One solution cannot fit all.

Post-pandemic

COVID-19 accelerated the transformation of SMEs, prompting smaller businesses to move their operations online as lockdowns kept employees home and consumers away. It is estimated that up to 70% of all SMEs increased their use of digital tools during 2020, and that 60% to 80% of those viewed the changes as permanent. SMEs that were already digitalized before the pandemic could transition even faster, with less disruption.

But the change has remained limited to certain forms of digitalization, suggesting a forced adaptation rather than a strategic transformation.

COVID-19 accelerated SMEs' move to online operations as lockdowns kept employees home and consumers away.



The revolution may already be underway, however. Although adoption rates in most technological areas are slow to take off, recent business surveys point toward a massive migration to the cloud in 2020-21, with the share of small firms purchasing cloud computing services increasing faster than that of medium-sized and large firms. The cloud is a pivotal technology in SMEs' digital journey, as it offers the opportunity to raise digital capacity without incurring investment costs upfront. It also enables technological leapfrogging, for example, towards data analytics and software-as-a-service.

Coping with mounting risks

SME migration to the digital world is not without risk. COVID-19 revealed SMEs' vulnerabilities to cyber risks in particular. Ill-prepared but increasingly connected, SMEs become entry points to supply chains where hackers could reach larger and more profitable targets. SMEs need to acquire basic digital security hygiene and good risk management practices to be able to identify and contain data breaches rapidly.

Risks also come from distortions in competition due to the growing power of digital platforms. During the pandemic, these platforms became instrumental in connecting SMEs to their clients and partners. More broadly, they have enabled

The cloud is a pivotal technology in SMEs' digital journeys.



economies of scale (reducing production costs per unit) through the network effects they generate. As their user networks increase, digital platforms gain in profitability and business intelligence. They turn into gatekeepers to the markets they support by raising entry barriers, such as fees, by gaining unique market knowledge with the data they collect, and by placing their own products and services front and center in a way that chokes off competition.

Finally, digitalization carries risk of further exclusion for laggards. In the digital transition, benefits accrue to early adopters. SMEs' capacity to access, protect, and turn data into business is critical for future business prospects.

SMEs matter

The digital transformation of SMEs is not only an economic challenge for individual actors. It has huge implications in places where SMEs are the main (or the only)

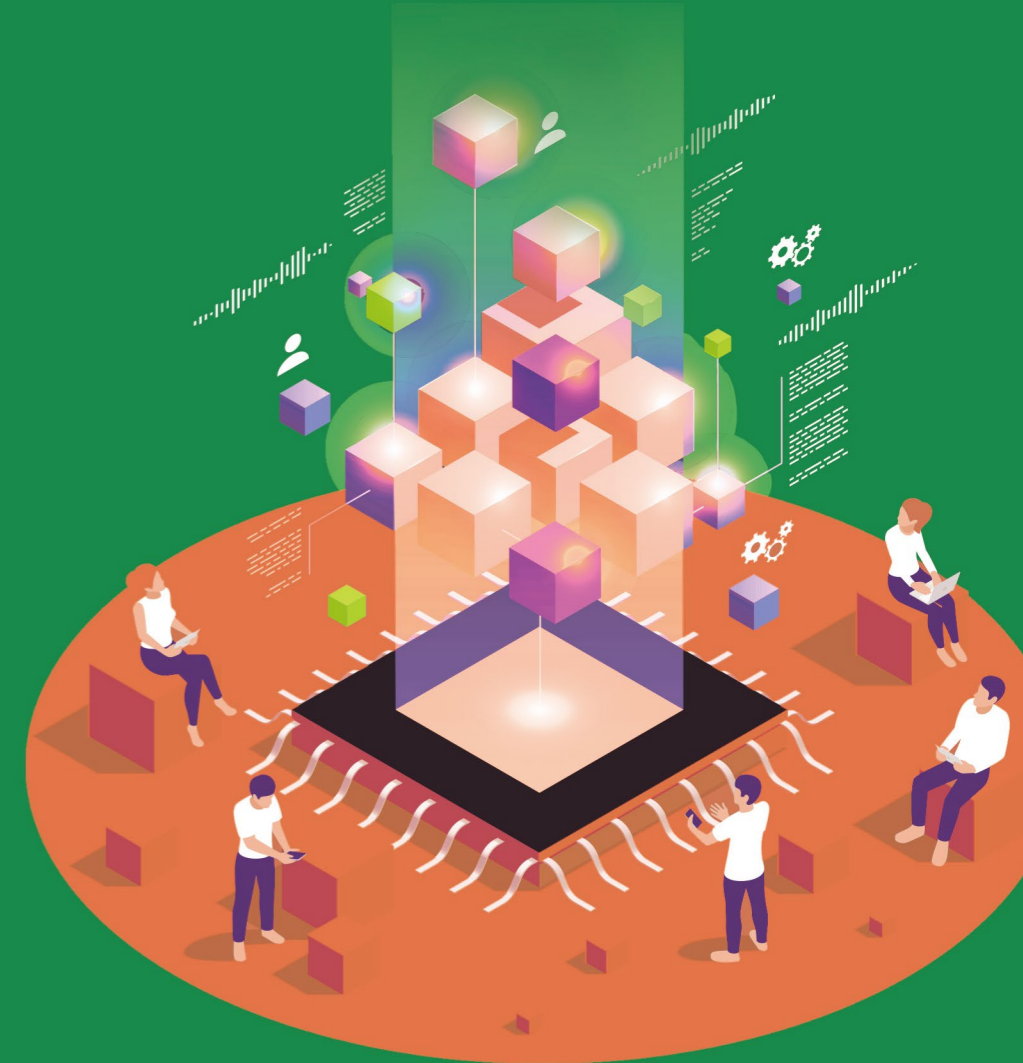
local employer and taxpayer. And for network security broadly speaking, it will be imperative to make sure SMEs' digital systems are secured.

The uptake of digital technology is also closely intertwined with the green transition. Greater sustainability, resource efficiency, and reduction of waste and emissions cannot be achieved without leveraging the potential of data and digital.

If one solution cannot fit all, we can still all learn from each other. To promote SME digital uptake and peer learning, the OECD has developed the Global Digital for SME Initiative, or D4SME. This platform aims to bring together OECD governments, large businesses, industry experts, and SMEs themselves to work on the many challenges at hand, and together promote the digital transformation of SMEs.



Digital platforms pose competition risks for SMEs.



SMEs MUST PRIORITIZE DIGITAL SKILLS



Anna Schneider

**Professor of business psychology
Hochschule Trier, University of Applied
Sciences in Germany**

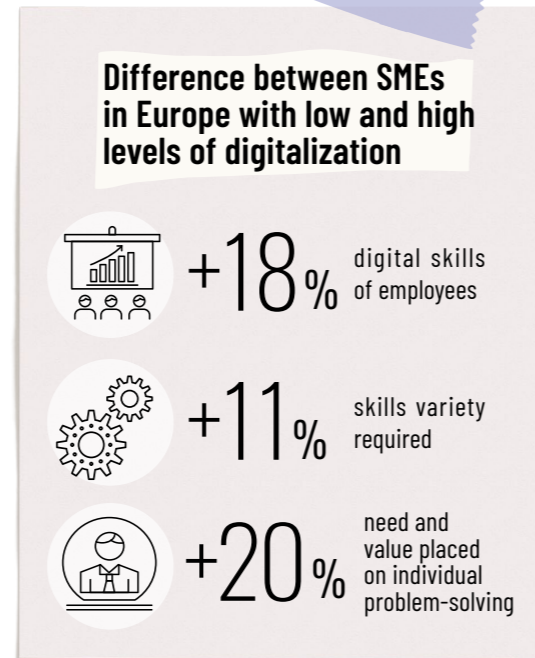
Photo by EYECATCHME

SMEs represent 99% of all businesses in the EU. And digital technology is one of two pillars supporting Europe's transition to a globally competitive, climate-neutral economy.

That transition will create 20m ICT-related jobs, making talent and skills a prerequisite for the region's sustainable, long-term digital transformation.

But more than 70% of businesses point to a lack of staff with adequate digital skills as an obstacle to investment. At the same time, the Digital Economy and Society Index (DESI) shows that four out of 10 Europeans lack basic digital skills.

Given this context, it is important to understand the factors that might keep Europe from reaching its goals.



The first step is the hardest

Last November, I surveyed more than 4,000 SME employees in five European countries. The study categorized SMEs based on their levels of digitalization (Low, Average, High). Employees were then asked to rank their own skills.

Perhaps not surprisingly, those in highly digitalized SMEs ranked their digital skills as being 18% higher than those working in SMEs whose digitalization levels were low. The findings in the data suggest that moving from "low to average" is harder than moving from "average to high"; and that, even for SMEs merely aiming to lift their digitalization level to the average, available talent is scarce.

As workplaces become increasingly digital, however, a shortage of skills is only part of the challenge. Our survey clearly shows that job profiles in SMEs with a high level of digitalization look very different from those in the bottom tier.

A new digital divide?

The more digitalized the workplace, the greater the variation in skills - including non-digital skills - with an 11% difference between low and highly digitalized workplaces. This includes important psychological factors for employees, such as the freedom and sense of empowerment to make decisions by themselves, which accounted for a 7% gap between low and highly digitalized companies. The biggest gap we found was a 20% difference in the need and value placed on individual problem-solving abilities when comparing successful job performance between low and highly digitalized companies.

Given that SMEs are defined as companies with up to 250 employees and a maximum turnover (revenue) of 50m euros (US\$54.4m), the resources needed to drive change, e.g., through upskilling, may present challenges for many businesses.

But the study shows that digitalization can drive fundamental change at SMEs, for example by changing their corporate culture. Managers in highly digitalized SMEs were judged to be 26% more transparent with their employees, leading to a 30% higher rate of acceptance of managers' decisions and authority.

Most crucially, the data suggests that respondents working in highly digitalized companies are 32% more optimistic about their occupational futures.

Digitalization not only brightens employees' career prospects, it also helps build an overall sense of confidence in the companies where they work. For those reasons, it is critical that companies provide ongoing training to advance the digital skills of their people.



Digital technology supports Europe's transition to a globally competitive, climate-neutral economy.



SMALL IS BEAUTIFUL – IF YOU'RE A HACKER

From Huawei Europe, where 90% of companies are SMEs, here's a guide on how to stay safe during your digital transformation.



David Harmon

EU and Cyber Security
Public Affairs Director

Cyberattacks are more likely to target small firms – and if successful, are more likely to inflict lasting damage.

Smaller businesses may lack the budget to keep dedicated cybersecurity professionals on staff.

Yet one of the main reasons SMEs might balk at greater digitalization is anxiety around cybersecurity. They reason that the more they digitalize their operations, the greater the attack surface they create – and, to be fair, there is some merit in that argument.

Yet SMEs that minimize ICT use could be left hopelessly behind their more digitalized competitors.

VIDEO GALLERY

Scan the QR code to watch the videos

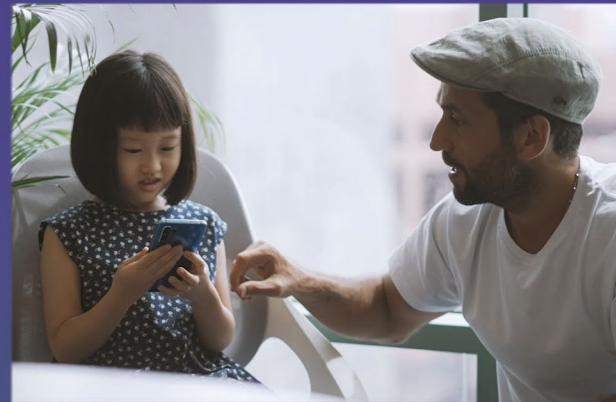


School Bright, Thailand

An entrepreneur in Bangkok runs an online test-taking platform for schools

Working For A Better Uganda

Evelyn Namara created a smartphone platform that lets farmers make optimal use of their land.



Volucap

A close-up look at an extremely advanced new camera

Bringing Digital To The Bakery

A former telecom engineer uses her skills in a whole new way

Insights On Eyesight

A Singaporean entrepreneur detects myopia with a smartphone.



**IN THE NEXT ISSUE,
WE LOOK AT THE SUBJECT OF TALENT DEVELOPMENT.**



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