

### **CEACH**

























































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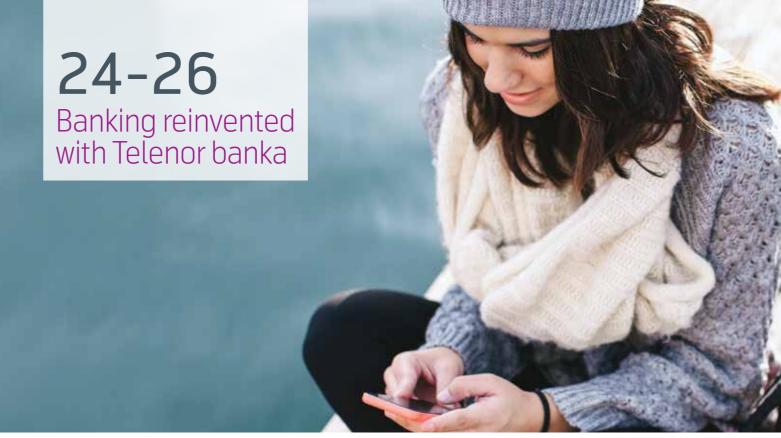
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### SWITCHING ON MYANMAR

28-29

Myanmar citizens are experiencing a period of rapidly expanding connectivity that is propelling the country forward into the 21st Century after decades of isolation.

### WE ARE TELENOR GROUP

"In all our markets, we want to help people get the full benefit of communication services in their daily lives. We become an integral part of the societies we join and it is fundamentally important to us that we strive to operate responsibly in all aspects of our operations. Through this, I believe we can create shared benefit for society and for Telenor."

– Jon Fredrik Baksaas, President and CEO, Telenor Group.



# Digital:\\Winners INDIA'S L360 APP

2014

What is Digital Winners?

Digital Winners is an annual conference sponsored by Telenor that highlights corporate innovation. It started out as a small competition orimarily for Norwegian startups and thas now evolved to showcase both Scandinavian innovators and also



Digital Winners awarded Indian start-up Concept Waves with "Best app in Asia," for their mobile app L360, a business planning app for farmers in India.

Livelihood 360 (L360) is an app that helps to estimate the quantity of produce in fields and then enables the sale of crops at a fair price. In addition, the app provides sellers with instant remittance from buyers.

The app has been adopted by over 12,000 farmers across 658 villages in the Araku Valley region in of Andhra Pradesh, India.

Digital Winners collaborated with Telenor's Asian business units in choosing the strongest local app developer candidates from each market. Each business unit nominated an app/startup, all of which were presented at the Digital Winners Conference 2014.

"We are incredibly honored to have won the Digital Winners prize for best app in Asia. Asia is an enormous market, and it is vital for startups such ourselves to gain visibility. Through recognition from corporations such as Telenor, we can rapidly gain endorsement for our services, distribute our services on a larger scale and gain access to much needed funding," says Raghu Kanchustambham, Founder & CEO, Concept Waves.





### see what makes our employees so passionate



WATCH
THE TELENOR GROUP FILM

www.telenor.com/about-us/our-story/



# driving innovation



Cloud storage service Capture makes it easy to save, view and share photos, videos and other files across mobile phones, tablets and PCs/Macs. Capture (called Min Sky in Norway) is the fastest growing service in Norway, and has also been launched in Serbia and Montenegro.

SOBAZAAR

Innovation requires the power of people; people who are willing to challenge, to experiment and to explore



### The Information The Customer **Architect of** Investigator of Denmark



As a mathematician and former programmer, Petr Information architecture is the way we build or design is an accomplished customer insights and business the secrets you can find hidden in it. Using data is usually seen as something robotic, technical and non-human. I see it the opposite way."

able to use memory. All data is record of something that has happened, and this is a memory of some sort. Using this memory to learn and to create something has phenomenal potential," says Petr.

Malaysia

architect in Telenor Group.

data, and then relate and connect it into business intelligence expert. He has more than ten years of valuable information. For instance, knowing how to experience in turning data into valuable insights for categorize customer data from across Malaysia will help different industries and clients. "I really love data and us design information structures that can eventually be used by engineers, programmers and our customer service divisions to create tangible products. That's the

"The more we as a company are able to use and learn "A building's architecture anywhere in the world is a from data, the more human it will become. It is like being valuable piece of our heritage and signifier of when and where we are in the world. The same is true of information architecture. All programs and databases and systems are derivative of earlier ones. Take "user interface": what you can actually do with this in the future is strongly dependent on the information architecture," says Yean Fong Lai.



YOU ARE

HERE

-Source Merriam Webster Dictionary









### mobile payment

Valyou launched contactless payments in Norway. /alyou is a mobile app, available in Google Play, that allows you to download a mobile version of your Visa-card to make contactless payments. The service is launched by Telenor, along with DNB, the largest Norwegian bank. Another five banks have signed up and will roll-out services in 2015.

SD ASIA Innovation is everywhere in Bangladesh. Innovation

comes from the young, and Bangladesh is very, very young- 60 per cent are below the age of 30. The country's nascent startup ecosystem was last year given an enormous boost by Grameenphone, teaming up with Startup Dhaka to present Innovation Xtreme. Innovation Xtreme has now become a premier platform for startups, business & investors to come together, pitch ideas, receive funding and grow local and global partnerships. More can be read at

# JOINING FORCES

Telenor and Schibsted recently entered into an equal partnership in SOBAZAAR, a startup that has sprung out of the entrepreneurial community, Telenor Digital, SOBAZAAR is a mobile-first social shopping experience targeting fashion-loving women around the world. SOBAZAAR is an app in AppStore, in addition to a web service that enables you to follow your friends, your favorite brands and fashionistas. Instantly see what's new in store, on sale and what your community loves right now. All in one simple feed.









TO DEVELOP CLASSIFIEDS

Naspers, Schibsted,

Singapore Press

platforms.

Holdings establish joint ventures for

the development

of online classifieds

Telenor and

Telenor Hungary launched the first online TV streaming service at the end of 2013, called MyTV. Within one year MyTV attracted 100,000 customers, doubled the number of live TV channels and expanded its video-on-demand offer. At the end of 2014, MyTV celebrated its first birthday by introducing the services initially designed for smart devices and computers, also



### STACT TALKING, STAY SAFE

the world it has not touched until very recently, it has never been more important It may seem that we can delete online posts because they appear invisible, but the for new internet users and their kids to start talking about it, the infinite opportunities it presents and the risks to avoid.

### Starting the conversation

In particular, it's the parents in newly digital countries, those who do not have years of experience online, who need to be armed with knowledge to teach their kids about the internet. This is our advice:

You know your children best. Spend time with your kids online. Sit down with them and discuss the benefits of the internet – from learning to social networking to providing entertainment to creating opportunities. Together, discover the ways in which the internet will broaden their horizons. In the same conversation, have a realistic plan for avoiding misuse of the internet. Use the language best suited to your relationship to create a safe, open

If your children already use the internet, find out what whether they have had any challenges with them (like contact with strangers and cyberbullying). hurtful things to or against them online, they should feel comfortable telling you about it.

### As the internet spreads to the corners of HERE ARE SOME KEY CONVERSATIONS YOU CAN START WITH:

### The internet is forever

posted information has already been indexed on the internet – forever. In a spur-ofthe-moment rant or instant post of ourselves doing something ridiculous at a party, there's no real 'undo' or 'delete' button to push. The images and texts posted can turn criminal, harming others or even ourselves, as these can turn viral in a matter of seconds. Key for kids: Think before posting. Everything you post will be online forever.

### Avoid stranger danger

Connecting with strangers through social media networks can sometimes be risky for our children if they make the wrong connections. There is no real way to determine whether a person's social profile is actually who they say they are, and this knowledge is exactly what we should arm our kids with. Key for kids: Be cautious with anyone you're talking to online that you don't already know in real life. Never share personal information and always log out of accounts when done.

### Understand cyberbullies

What may seem harmless online to us can be hurtful for others. Thinking about how we "talk" to each other online and how we use the internet to connect with others can help us determine what is cyberbullying behavior and what is socially acceptable online. Cyberbullies often do not realize the consequences of their actions.

In Malaysia, a national survey conducted by Digi found in 2014 that more than one quarter of school-aged kids report they have been bullied online, and more than 70 per cent identify themselves with various forms of online harassment. Meanwhile, sites and apps they are using, how these apps work, and more than half of these kids say they go online without supervision – the majority of those also say that they are not bound by any rules on cybersafety.

Let your children know that if someone is making them In the USA, a 2011 Harvard School of Health study showed that schools that have antifeel uncomfortable or if someone is saying harmful or bullying programs reduced bullying by 50%, with the worst during the ages of about

> Telenor Norway and partners fought digital bullying with an aggressive awareness campaign that reached tens of thousands of schoolchildren starting in 2009. A recent survey found that three out of every four pupils who took part feel that they now know how to avoid online bullying. All of this goes to show that talking to your kids about the internet really does work.



### TURN YOUR SMART PHONE Into an emergency Life - Saving Tool



dtac cares that you travel safe with the m-Rescue application in order to assure you a smooth journey along the way.

Download the m-Rescue application by dtac today and leave all your worries behind as emergency service and volunteers are available on a 24-hour basis The SOS button will promptly send an emergency signal and share your location to the emergency service, and send an SMS to 3 pre-registered phone numbers in your contact people list. Another dedicated social responsibility service by dtac.

\*We recommend that an immediate registration should be done right after downloading for the maximum application usage.









EXECUTIVE DIRECTOR, HEAD OF LINE BUSINESS DEVELOPMENT DIVISION

### Most people don't know about LINE's extraordinary beginning – can you describe the circumstances behind LINE's creation?

which centered upon "communicating with your closest" and so we plan to continue on with this strategy. and most loved ones", including friends, family and coworkers etc. Up until then, semi-open SNS services 14 How are you working to achieve the same such as Facebook and Twitter, where the main purpose is success in the West as you have in Asia? to "meet new people", were the mainstream.

of the earthquake. Not knowing when the next crisis would occur, we wanted to offer this new service to users local companies for co-marketing efforts, etc. as soon as possible. Although many difficulties were met along the way, we put our hearts and minds into creating On the other hand, in Asia, where they have the highest 1.5 months, LINE was launched.

### How did LINE become so popular so quickly?

The reason for LINE's explosive popularity we think is due and e-commerce. to its simple and user-friendly instant platform that follows the prevailing global shift towards smartphones. With the popularization of smartphones, demand for instant messengers that transcend the boundaries between devices has exceeded the demand for SMS.

### Though LINE is available worldwide, to what do you attribute its specific success in Asia?

Our existing global strategy is to provide support for Anticipating that the smartphone market would expand local languages and launch marketing campaigns in rapidly back in 2011, we put together a policy to focus areas where user numbers are growing naturally, and on smartphone-based services. Then The Great East giving that growth a boost by signing on local celebrities Japan Earthquake happened... It was March 11 and it and characters, partnering with local businesses, and played a large role in changing the way people viewed localizing the service only after it achieves some degree internet communication. After the earthquake, we of recognition in the region. This is working particularly found that people needed a more closed SNS service well in Asia, which we think is reason for the success here,

While we've already experienced some growth, there's much more to come. In order to raise LINEs presence The LINE project began in late April amidst the aftermath within the west, we will continue to expand on and improve content, as well as strengthen partnerships with

this new smartphone communication service, and in just smartphone penetration rates, smartphone users spend more time using LINE than Facebook or Twitter. In Japan, LINE is already a complete mobile platform where users can enjoy boundless communication, dynamic content



...smartphone users spend more time using LINE than Facebook or **Twitter** 

### Mr. HyunBin Kang is a Senior Vice President at LINE PLUS Corporation.

With his passion for global service and business exploration, Kang leads global business development and market expansion at LINE PLUS, Prior to LINE, he was with a US-based consulting firm to develop consultancy expertise and career, covering the Greater China region, Europe and South Korea for a variety of projects. He holds a bachelor's degree in Business Administration from Sogang University.



### How did LINE's "sticker" idea come about? Did you expect the sticker feature to become such a key appeal of the application?

When we added the sticker function in October 2011, we did expect that our stickers would grab consumers' attention and be loved by people, but maybe not quite to the level we experienced. Emoticons, abbreviations and acronyms really took off. This was a trend we were ahead of.

Users can now express their emotions in one simple picture – it's fun and simple. And we keep expanding on this through localization, partnerships and usergenerated content through our Creators' Market.

### How is LINE performing in South Asia (India. Pakistan, Bangladesh) and Malaysia?

South Asia is one of the key regional markets for LINE with its high (and skyrocketing) smartphone ownership potential. For example, India is the world's second largest mobile phone market increasing at an annual growth of 167.3%. This upsurge gives us a huge opportunity so we have been trying to expand our users in the region.

In general, LINE is showing rapid growth in user numbers and we believe that is because of the outstanding service and for the entire tech community in the next 10 years we provide to users as not only a mobile messenger, but a lifestyle platform with variety of dynamic features and services. Currently, LINE has 30 million users in Indonesia, 30 million in India, 24 million in Thailand and 10 million in Malaysia (as of July 2014). Since we started our service in Pakistan in July last year, we're experiencing steady growth in the market as well.

### LINE is often cited as an example of Asia's growing strength in internet-services and technology innovation. Is there a shift happening in the global technology community's center of gravity – from Silicon Valley to Asia?

Mobile data consumption in Asia is at an all-time high and we will only see further growth. Mobile phone users are also very sawy and sophisticated. In addition, the rich and complex cultural diversity of Asia provides us important insights and benchmarks. In short, yes, we think Asia is becoming a global technology epicenter.

### Do you see differences in the communications needs users in emerging Asia have compared to those in developed Asia or in the West? If so, what are some?

Localization is one of our key strategies – we recognize that every market is different, and LINE is a platform that we've designed to fit into any culture. To do this, we keep trying to provide localized features and stickers. That means it is not easy to categorize regions like emerging Asia or the West. But if we had to list something, we'd say very generally that users in the West prefer to use textbased messages, while stickers are more widely used in Asian market.

### How do you see these differences evolving/ converging in the next ten years?

We think that both the West and Asia will most likely move from the simple IM options of the first generation to a second generation of multi-IM services. This trend will spread from developed countries to developing countries. We also believe there is a possibility in the short term for developing countries to create messaging apps that will function in poor network environments.

In the smartphone era IM services will become a gateway through which users can access all services, much like the PC during the previous era.

### How do you envision LINE and other messaging services in 10 years?

In the long term we believe that many local messaging options will appear, but eventually they will whittle down to just a few. While currently IM services enable people to speak to each other, we believe it's a definite possibility that we may eventually be able to send messages to our cars or home appliances to perform various actions for us too. This is something we're working on with LG controlling various aspects of our lives from our mobile devices. There's all sorts of exciting things in store for us



messages whenever and wherever of LINE Corporation. It supports LINE's

10 | Reach Reach | 11

Mobile data

consumption in

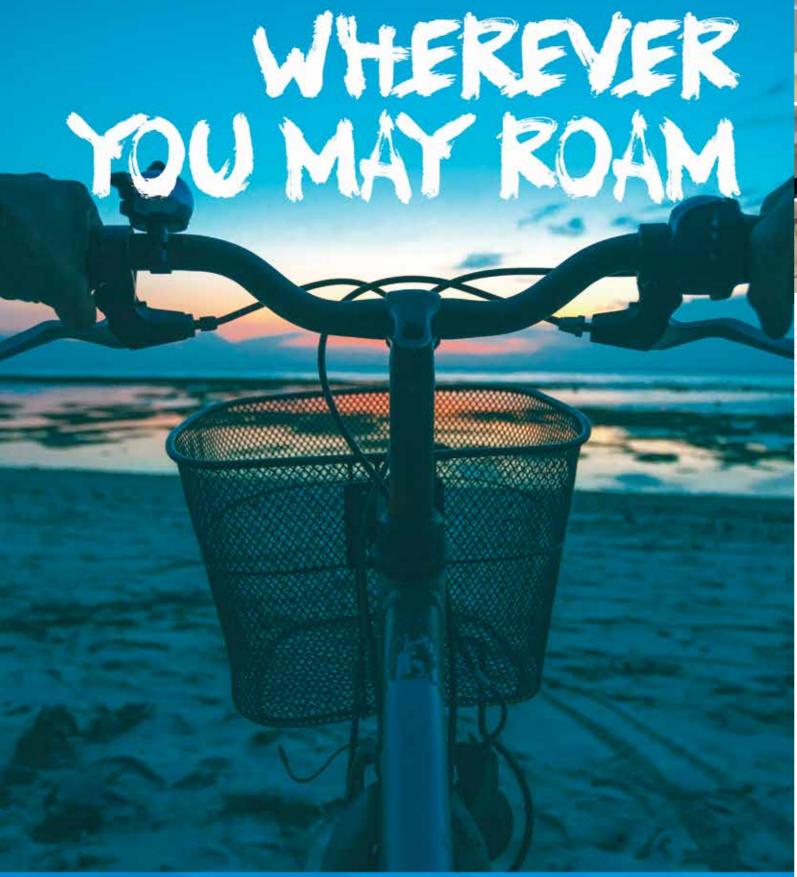
Asia is at an all-

we will only see

further growth

time high and

www.telenor.bg



SWITCH TO TELENOR bulgaria















### TRANSFORMATION IN BUI GARIA

The winds of change touched Bulgarian telecom GLOBUL when Telenor took over in August 2013. Now, a year-and-a -half later, the company has been transformed, meeting customers with a new name, new look, new offers and a new way of working.

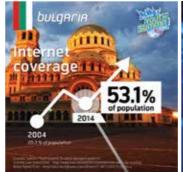
Telenor Bulgaria's management chose to focus from the very start on developing a new working environment and completely renovating their mobile network.

"Our new building is the first physical evidence of what Telenor is all about. My wish is to build a culture based on openness, enabling us to communicate easier, make decisions quicker and compete even better," said Telenor Bulgaria CEO Stein-Erik Vellan at the opening ceremony of the new premises.

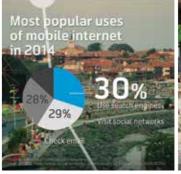
At the same time, the company has been conducting a total network renovation, swapping the entire 2G and 3G

What's on the inside shows on the outside. Knowing that, network, the access and backbone transport network, as well as the core network including related services. The new network is 4G-ready and enables better and more innovative products and services, stronger coverage and improved capacity.

> With a future-proof network and a new way of working, the company proudly adopted the name Telenor in November 2014. Along with the new name, Telenor presented a new retail concept that brings customers and products closer together, and a new market philosophy ensuring that old customers get as good offers as new customers.









Source: Telenor Youth Summit Bulgaria delegate research

### **STAYING CLOSER:**

### WHY THE NEXT INTERNET GIANTS WILL BE ASIAN

BY SIGVE BREKKE, EVP AND HEAD OF ASIA, TELENOR GROUP



Innovation in the mobile industry has had many sources. In the early years, the Nordic region and Europe were far ahead, today the US and its vibrant ICT industry is in lead. The next decades will belong to Asia.

### A new breed of regional stars

Some companies are born global. They grow out of a and Malaysian customers use four times more data than university dorm room and become global players that a year ago. Our Indian operation, Uninor, who started disrupt entire industries. Others are "one-hit-wonders". marketing what's likely the world's cheapest social Today, we see a new breed of innovative hardware and media access at INR 1 per day, now see median usage software companies, born and bred in Asia, who perform at 300MB/month. The digital future of Asia belongs to tremendously well in the region. Common to all of them companies that are able to balance efficient operations, is that they are able to serve value-conscious Asian great distribution with attractive, relevant and useful mass market consumers with services they truly value. Companies like Xiaomi, Symphony and Micromax are making quality smartphones at extremely affordable 
It's all about inclusion price points, while software developers and content

### The Asian data explosion

100 MB in a month. Today, that number is about 50% a window of opportunity.

higher in our European markets. But in Asia, median Thai

Still, in our Asian footprint of 1.1 billion people only 15% providers like Tencent, Naver and Alibaba are filling them access the internet today. Despite steadily decreasing with content that completely dominate certain markets. costs of both devices and service costs, the internet is still - or is perceived as - a luxury for the few. Internet for All is not only about enabling use, it's also about giving Their growth is a result of the strong demand from Asian people a good reason to go online. It's about giving them consumers embracing the internet faster and more the relevance and the utility that makes it worthwhile for enthusiastically than most could imagine. One year back, them to spend some of the money in their pocket that Telenor's median user globally would consume less than day, on connectivity. This is where Asian developers have



Internet for All is not only about enabling use, it's also about giving people a good reason to ao online.



### Making an impact

How can you make your world better using digital communication? How can an app or a digital service transform your society in a positive way? We asked young entrepreneurs and opinionated youth in our Asian markets, and invited them to co-create and evolve their ideas with our seasoned experts. Out came a plethora of ideas – some known, some new – all with a fresh perspective and a local twist. A flood alert app. An affordable hearing aid service. A mobile ERP system for small scale farmers. New ways to enjoy live television. A simpler method to claim your car insurance. A digital service to enhance the personal safety of women. Enabling identification of missing persons through facial recognition.

Behind these ideas are passionate and driven youth, from all walks of life, but with a shared ambition to improve their community, their society by taking full advantage of mobile and digital communication. Many more are to be identified as we engage Asia's digital natives in discussing and finding smarter and more relevant solutions. Some of these are apps and services that can make it big and go global. Many of them are just useful solutions to a critical, local problem. One stimulates new business creation, employment and GDP growth. The other helps solve real problems, and gives entrepreneurs useful experiences to succeed next time.



...we must deliver content and services that are useful, local and relevant.



### Inviting youth and entrepreneurs to co-create our digital future

I won't pretend to know what 160 million people in six different countries in Asia are looking for, not today and certainly not tomorrow. But as an organization with 21,000 employees and 1.3 million retail touchpoints in Asia, we collectively know a great deal about what people in our footprint care about, what their daily joys and frustrations are, how they value the services we deliver. We know what products are useful to them and which ones are there only to entertain. We know that they worry - like all of us do - with kids going online, but similarly appreciate the fact that their children can access the world's greatest source of knowledge and information – from the palm of their hands.

In all our Asian markets, we are now reaching out to and inviting in young people and entrepreneurs with opinions and ideas about our common digital future. As a mobile operator and internet service provider, we are in the business of enabling people to reap the benefits of being connected. To do so, we must deliver content and services that are useful, local and relevant. They must be attractive and fun, sure - but they must also deliver a value greater than what our customers pay for them. Internet for All is not about mindless data consumption, but about delivering real value to real people.



Siave Brekke is the Executive Vice President and Head of the Telenor Asian operations. Sigve joined the Telenor Singapore office in 1999 as Manager Business Development and later Managing Director. Sigve served as co-Chief Executive Officer of dtac from 2002 to 2005, and Chief Executive Officer in dtac from 2005-2008. Prior to joining Telenor, Sigve served as the Deputy Minister (State Secretary) of Defence in Norway in 1993, and has also held position as an associate research fellow at John F. Kennedy School of Government, Harvard University in the USA.

THE MOBILE IMPACT THE MOBILE IMPACT



### THE MOBILE IMPACT



### A VISION FOR THE FUTURE

TELENOR GROUP PRESIDENT AND CEO JON FREDRIK BAKSAAS

We adopted this ambitious vision because closer and societies are being impacted. we believe that it is well aligned with the transformative power of mobile In Telenor we believe the Internet is for all, communications and its impact in local and that by getting devices in the hands societies. In the mature markets, this is of people, showing them the benefits and not breaking news. We have seen the slow helping them to understand responsible evolution of society - beginning decades use, they will be empowered. We are in ago when we first got our hands on a the midst of a time of transformation, mobile phone – up until our present day propelled by the little device that in which these phones encapsulate nearly connects us to the world. It's a great our entire lives.

much more noticeable and remarkable grow in importance in people's lives. This in developing markets. The adoption is why we've chosen our vision to empower rate, the learning curve and the pure societies. We aim to improve lives, build hunger for services is unparalleled. societies and secure a better future for all. And the opportunities are endless. Financial services, healthcare, education, government services, social networking,/ buying, selling and the list goes on. Lives Jon Fredrik Baksaas

Telenor's vision is to empower societies. are being made easier, people are getting

responsibility that we do not take lightly.

By comparison, this transformation is The role of mobile connectivity will only

In andrid Dalman

Arshad Farid became an entrepreneur nine years ago. He opened a small grocery store in his Pakistani village, selling Telenor Mobile scratch cards to local customers. Arshad has polio, and running a store allowed him to make money for his family while working around his medical condition. His store was successful, but he saw a greater need in his community. There was no bank in the village, and people had to travel to the nearest city for any financial transactions. Arshad wanted to ease that burden, so he worked with Telenor franchise representatives to become an Easypaisa retailer.

Easypaisa is the first branchless banking his siblings, Farid also has three daughters. to people right where they live. Rather other companies asked him to sell their than make a long journey into a city, branchless banking services, he refused. customers can visit local retailers and make transactions from there.

Farid said people from other villages now comfortable using Easypaisa products. I come to his shop to pay their electricity have worked really hard to build that trust bills, and that he is no longer known by and confidence and now I am making his name, but as the Easypaisa retailer. good money through my business," he Offering Easypaisa services allowed him said. "I am comfortable in running my to earn more money, which is good news, business. My income has increased over since he supports a family of 12. In addition time and now I manage to give my family to caring for his wife, parents, and three of a decent lifestyle."

service in Pakistan, established by Telenor He makes between 15,000-16,000 Pakistan and Tameer Bank. The mobile rupees a month, enough to provide for service makes paying bills, transferring everyone. Easypaisa has been good for money, and ATM interactions accessible him and good for his customers, so when

> "I know that my customers have complete trust in Easypaisa and they are more



THE MOBILE IMPACT THE MOBILE IMPACT



Arshad's story illustrates the many possibilities mobile technology presents. Rural communities in developing countries around the world are gaining access to vital health, education, and financial resources simply by using their mobile phones. A 2011 study commissioned by Telenor Group found that in Pakistan alone, the number of people without access to banking services could drop by 20 percent by 2020, thanks to mobile technology. In countries such as India, Bangladesh, and Myanmar as well, mobile phones will grant millions of people access to online services, transforming how they live and the power they have over their financial, academic, and physical well-being.



In countries such as India. Bangladesh, and Myanmar as well, mobile phones will grant millions of people access to online services, transforming how they live and the power they have over their financial, academic, and physical well-being.

Myanmar in particular will benefit from mobile, as a country that is only now really seeing the development of modern telecommunications and technology infrastructures. "It is likely that the majority of the population will never have a normal kind of bank, they will jump across to mobile finance, banking, taking loans [via mobile]," said Elisabeth Biering, Telenor's Director of formal documentation. Sustainability.

The opportunities for mobile development are only on pace to increase. A 2013 Telenor study on "The Impact of 'Building Digital Resilience'" found that one million children in Telenor's markets and Russia alone will come online by 2020, and that 85 per cent of them will do so usina mobile devices.

"We see [mobile technology] as just so transformational," said Christopher Fabian, senior advisor on innovation to the executive director at UNICEF and co-lead of UNICEF's Innovation Unit. "It creates a parity between the bottom quintile of wealth and other quintiles."

UNICEF's Innovation Unit operates according to nine core principles that revolve around sustainability, data, and collaboration with all relevant parties, especially local users. Fabian emphasized the importance of designing mobile products that serve the markets in which they'll be used, taking into account the unique needs of different communities. To do this, he said, companies and organizations need to work with local developers to ensure that the product will actually be useful.

The "patronizing approach to mobile tech" doesn't work, Fabian said. "Saying 'oh, let's just give poor people phones' doesn't work. If you're actually able to create markets, [you can't just] have a phone with an app on it that was designed in San Francisco. [Developers are] realizing how localized they need to be when shipping a



The same goes for public health and education initiatives that rely on mobile technology to engage large numbers of people. In Serbia, where Telenor partners with UNICEF and the Ministry of Health to serve impoverished families in Roma settlements, local partnerships are key to establishing trust among the community and gathering crucial data on health and well-being in Roma camps.

Since 2008, UNICEF and Serbia's Ministry of Health have worked with Roma women who act as health mediators within their communities through the Povezivanje project. These mediators educate people about the health services to which they are entitled, and help them access medical care for their families, enroll their children in schools, and register with the government to receive



Roma families "are often not informed about The list of transformative uses of mobile technology entitlements in the health system, about preventive check-ups, immunization, visiting nurses, or that they can choose their primary care doctor," said Jelena Zajeganović, an early childhood development specialist at UNICEF. There is also a mistrust of the government healthcare system among Roma, Zajeganović said. But mediators help bridge that gap because they come from the communities, understand the culture, and speak the

In 2010, Telenor came on board the project to provide funding and support to improve data collection in these communities. Mediators received mobile phones with free calling and SMS, and health centers were equipped with laptops. The women used the laptops to record individual cases so they could track families' cases, as well as create a database of Roma needs and health statistics. Health mediator Svetlana Ilić said those databases "made it easier to check up on [patients], and send information to the Ministry of Health.

The high mobile penetration rate among Roma communities in Serbia makes it a particularly effective way for mediators to connect with families, Zajeganović said.

"It's amazing," she said. "Sometimes they don't have enough to eat, but they have a mobile phone."

Improved access to healthcare resources may be the most significant achievement of the mobile era. Simply sending SMS messages with information about proper childcare and disease treatment may save countless lives. In Thailand alone, 40,000 tuberculosis cases could be cured through SMS treatment compliance, a 2012 strategy. Telenor-Boston Consulting Group study found.

Mobile technology also creates educational opportunities where there were none, or at least very few. In 2011, Grameenphone, a division of Telenor in Bangladesh, worked with the JAAGO Foundation and Agni Systems Limited to launch an Online School initiative that offers quality education to children in remote areas. Schoolchildren learn via interactive lessons being streamed from Dhaka, where qualified teachers conduct the classes. Local moderators host these learning sessions, using laptops, web cams, TVs, and sketch boards.

goes on: a pilot program from Telenor Pakistan, UNICEF and local authorities that uses mobile technology to improve birth registration rates; UNICEF's SMS-based counseling service in Zambia, where teenagers can text health counselors about HIV/AIDS testing; a partnership between Telenor's dtac and UNICEF to use SMS to educate new mothers in Thailand about maternal and child health.

These advancements are taking hold in the developing world, but they actually provide solutions to worldwide problems, Fabian said programs such as Zambia's textbased counseling sessions would be useful in places such as the U.S. as well. By building mobile technology for vulnerable communities, developers and organizations could well be designing for a healthier and better connected global landscape.

The importance of improved access to healthcare, education, and financial services cannot be overstated from a humanitarian perspective. But that doesn't mean mobile initiatives must come at the cost of telcos' profits. In fact, serving the poor actually benefits corporations financially, Fabian said.

"I think if mobile companies look at [UNICEF's Innovation] principles as business principles, they'll get a net benefit. Let Telenor harness that market and help the bottom quintile," he said.

Strengthening the bottom 20 percent of any market helps strengthen economies, Fabian said. Businesses should let sustainability principles be "a core business driver," not just part of the corporate social responsibility

Telenor recognizes that what's good for the most vulnerable is also good for the company, which is why it offers financial support and access to a range of mobile technology solutions as part of its UNICEF global partnership. Creating "incubators for e-government," giving people more control over their well-being these create new business opportunities for Telenor.

Telenor's take on its initiatives in mobile technology and sustainability is bold, particularly with the company's ambitious vision to empower society. But bringing this kind of vision to the core of Telenor just may be the kind of attitude needed for such development



Improved access to healthcare resources may be the most significant achievement of the mobile era.

Casey Hynes is a freelance iournalist and editor. She writes about human rights, humanitarian tech initiatives, and the emerging technology sector in Myanmar. Hynes spent several years living and writing in Asia, spending time in South Korea, China, and Thailand and traveling throughout the region. She is a 2008 graduate of Columbia Journalism School in New York City, and her work has appeared in The Wall Street Journal, South China Morning Post, The Christian Science Monitor, Voque India, and a number of other publications. Her writing can be found at caseyhynes.com.



## OECD'S SERIK SOLHEIM ON MORII F

Erik Solheim talked to Reach magazine about how he thinks mobile services are empowering development.

In the October 2012 edition of TIME magazine, former US President Bill Clinton said that "phones mean freedom". The advent of mobile technology has been transformative, fostering equality and lifting people out of poverty. Providing assistance to the least developed and often most impoverished countries is something that Erik Solheim, Chair of the Organization for Economic Cooperation and Development's (OECD) Development Assistance Committee, is strongly committed to. Here's a look at how he thinks mobile phones can help.

### Do you believe that phones mean freedom?

Very much so. Cellular phones empower people in a completely new way. Everyone who can afford a Indeed, I was involved in the opening of Grameenphone smartphone is seconds away from the most relevant knowledge on nearly any subject. This is historically brand new. It strengthens individuals and weakens oppressive authorities, whether in business or politics.

### How can mobile technology be harnessed to provide actual assistance to developing nations?

Mobile banking means that people without means no longer need to bow at the end of the line in banks or at **105** From your perspective, how can mobile operators money lenders. They make it possible for teachers to receive instant information from experts and ministries to bring about the most positive impact of mobile wherever they live. Teachers can exchange experiences services? with each other and solve problems based on best available knowledge. Health authorities can provide information on the cheapest medicines, and advice on best practices. The list is endless. Just do it!

### Do you see mobile technology playing a critical role in conflict and disaster management?

It provides people with the opportunity to keep updated in real-time about varying dangers such as wars and natural catastrophes. This is crucial in disaster preparedness in a place like Bangladesh for example. However, mobile phones can also be used to spread hate propaganda or instruct people on how to kill others.

### 1 Have you witnessed positive effects or changes resulting from the growth of mobile services?

located in Dhaka, Bangladesh. It has had a huge positive impact on the business climate in the country. In Pakistan I saw how mobile banking reduced costs and empowered people. In Myanmar, costs of telecommunication have been reduced to virtually a nano-fraction of what it was, with a huge positive impact on business and individual freedom. In China, mobile phones are used to empower local teachers with brilliant results.

and organizations such as the OECD better collaborate

We should particularly be looking into the benefits in sectors like health and education where it can empower local activists. It may also be useful to think of the "advantages of being late", the fact that poor nations are leapfrogging over such technological levels like fixed telephone lines.

### OECD's mission

The mission of the Organisation for Economic Co-operation and Development (OECD) is economic and social well-being of people around the world.

1955 in Oslo, Norway) has served a lifetime in the service of development, as a peace negotiator in Sri Lanka from 2000 to 2005. later as Norway's Minister of Internation al Development from 2005 to 2012, during which he early on started talks with opposition and government in both 7imbabwe and Myanmar. He has directed negotiations on global rainforest preservation, led Norway's delegations at five climate summits and facilitated peace talks that led to the establishment of South Sudan as an independent state. Erik was awarded "Hero of the Environment 2009" by Time Magazine and is a Champion of the Earth in the United Nations Environment Program. When he's not at the epicentre of

development, Erik enjoys his four children and playing football.

Erik Solheim (born in

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### NET NEUTRALITY REGULATION SHOULD BE BALANCED

BY: ANNA D'ANNUNZIO, GORM ANDREAS GRØNNEVET, BJØRN HANSEN, BJØRN TAALE SANDBERG AND OLE CHRISTIAN WASENDEN - TELENOR RESEARCH

The term Net Neutrality was coined by Professor Tim Wu in 2003. According to Wikipedia, net neutrality is the principle that internet service providers and governments should treat all data on the internet equally, not discriminating or charging differentially by user, content, site, platform, application, type of attached equipment or mode of communication.

SPs are mandated to have at least ne offering satisfying strict NN. n addition. ISPs have a certain exibility in offering differentiated

Net Neutrality imposed on all IP-based services traversing the internet

**FREE MARKET** 

**BALANCED NET NEUTRALITY** 

STRICT NET **NEUTRALITY** 

the scope for the regulation. As indicated in the diagram end, otherwise known as strict Net Neutrality.

There are hardly any examples of attempts to impose Net Neutrality regulation in its strictest form. The regulatory debate is accordingly centered on how to strike the balance - i.e. what services to exempt from Net Neutrality regulation as well as requirements on the coexistence of the different Whether Net Neutrality regulation IP-based services. This is exemplified by the legislative proposals in the European Telecom Single Market package where so-called "specialized services" have been defined and benefit consumers is not as services that would not be subject to Net Neutrality.

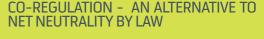
Imposing Net Neutrality regulation will have consequences access providers, but it will also have consequences on content and service providers. This is because the effects on the end user, and the content and services sides are becomes more attractive to develop content, and vice quide the design of the regulations is remarkable. versa- when content variety increases it becomes more attractive to buy access for end users. This is a so called two -sided market.

When imposing Net Neutrality, regulators must decide on The functioning of two-sided markets has been the subject of considerable economic research over the last above, it can be useful to think of this as a continuum 10 years. A notable conclusion from this research is that from a free market on one end, and a market where Net conventional economic logic is often misleading if only Neutrality is imposed on all IP-based services on the other one side of the market is considered. The effect of imposing regulations depends on a number of factors including



will improve the general welfare necessarily a given.

on prices and products offered to end users by internet competitive pressure on both sides of the market, as well as technological aspects and product characteristics. Whether Net Neutrality regulation will increase general welfare and benefit the customer is not necessarily a given. Indeed the interlinked. By increasing the number of end users, it lack of empirical studies on market characteristics that can



In 2009, Norwegian Internet providers, together with the National Regulating Authority and other stakeholders, agreed on a net neutrality guideline. The guideline, combined with annual stakeholder meetings, ensures both that some principles are established and that it is possible to adjust the interpretation of these principles as new services and applications become available. This approach to Net Neutrality serves the general interest without introducing unintended limitations on how society can take advantage of the internet. Denmark has a similar arrangement where The National Regulatory Authority has the ability to regulate, but acts on a day-to-day basis as an observer in the so-called Net Neutrality

On a practical level, services satisfying Net Neutrality requirements will continue to be core services for both fixed and mobile internet service providers. Such services will be offered irrespective of whether Net Neutrality regulation is introduced. A regulation ensuring that ISPs have at least one Net Neutral offering will not have any direct economic effect. However, such a regulation may have other positive effects, in particular related to Freedom of Speech. Telenor a narrow definition of specialized services, as well as market packis positive towards these requirements.

However, if the scope of Net Neutrality extends beyond the obligation to have neutral offerings, there will be economic effects. If the regulation is too inflexible there will be economic harm.

Strict Network Neutrality will constrain the possibilities for offering differentiated services. This will benefit some consumer segments but not others. A significant result is that marginal users, e.g. the ones not connected today, and that could afford a cheap internet access with limited functionality, will be harmed. Strict Net Neutrality will increase the digital divide.

Furthermore, we believe that the regulation should be principle-based. The internet is changing rapidly. A specific Net Neutrality regulation well adapted to the

current situation could be very harmful two years from now. We expect rapid growth in the areas of Machine to Machine communications and the Internet of Things. Especially in the mobile sector, it is likely that the characteristics of the access service, as well as the business model, need to adapt to these new products. We worry that some of the signals from Brussels suggest telecoms single limitations on the business model in the form of a ban on price discrimination. This will be a competitive disadvantage for European mobile operators as well as **counterproduc**other internet based firms relative to firms from other tive-instead regions such as the US. Thus we risk that the telecoms single market package becomes counterproductive-Instead of stimulating economic growth it is slowing indeconomic growth in Europe.

Europe needs a balanced, principle-based regulatory framework that safeguards the open internet and allows in Europe. intervention for regulators in case problems arise. Furthermore, if the Net Neutrality regulation is too strict it will be a drag on growth and innovation in the European internet economy. Any regulation of the market should be accompanied by a careful analysis of the effects taking care into account the two sides of the market. Furthermore, with the rapidly changing internet it is likely that the optimal remedies will change over time.



We risk that the age becomes of stimulatgrowth it is slowing growth

BANKING REINVENTED WITH TELENOR BANKA



### **BANKING** REINVENTED WITH TELENOR **BANKA**

BY CASEY HYNES

### **MOBILE BANKING IS CHANGING** THE WORLD

Bill and Melinda Gates know it. Telenor knows it. And with the launch of Telenor banka, now Jovan Gojić and other fellow Telenor customers in Serbia know it.

Gojić became a Telenor banka convert when his sister wanted a new pair of shoes.

He had created a Telenor banka account on a lark, but not terribly enthusiastic. He had high hopes for the bank's mobile app but from his first impression he says it seemed to have "just a few features in comparison to what I already had."

And then his sister asked for those new

Gojić wanted to help her out, but needed to convert the cash from Euros to Serbian Dinars before sending it to her, typically a long and painstaking process. He are at the core of Telenor banka's value decided to use his Telenor account for the proposition, and have made banking easy transaction, and the money was changed and accessible to millions. and transferred immediately.

"It took me three minutes instead of an hour or more," he says.

old service. He has recruited his entire family to use Telenor banka. He now uses his other bank's mobile app solely for transferring money to his Telenor account, which allows him to bank entirely online.

Telenor Group opened Telenor banka in September 2014, after purchasing KBC Banka the year before. The bank is a potential flagship for future Telenor banking properties, as it is the company's first fully-owned financial institution. Martin Navratil, Managing Director of Telenor banka, says, "the Serbian market has high mobile penetration rates, but needed modern banking options." Only nine percent of the population was using online financial services when Telenor banka launched, according to available

"Telenor had brand recognition and a high level of consumer trust in Serbia, making the company uniquely positioned to enter the banking financial services sector," says Ove Fredheim, CEO of Telenor Serbia.

"What we saw in Serbia was a highly digitized, but somewhat unbanked society," Fredheim says. Telenor knew how to solve that. An intuitive banking app and high-quality data connection

Telenor banka operates on a customercentric model, simplifying the banking process from enrolment to everyday transactions. Customers can open Gojić is now an avid user of the six-month- Telenor banka accounts at Telenor shops





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HI.	121,076	121,413	125,830		
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OK	13,621	12,399	14,200		
SC:	101,056	108,667	111,126		

Reach 125



throughout the country, or request that a representative bring the necessary paperwork to them. From that point, customers can manage and pay their bills, send money to customers using only their emails or mobile phone numbers, and conduct currency exchanges from their mobile phones. No more waiting in line to fill out and now also financial services provider, paperwork or make deposits at crowded banks.

absolute minimum," Fredheim says.

"The easy exchange of Euros to Dinars is a key selling point



Telenor banka serves as an example of how Telenor can empower customers by offering easy, intuitive mobile financial services at affordable rates. Telenor is setting the standard for online banking in Serbia and a model that allows customers to bank when, where, and how they choose.

in Serbia, where many people prefer to save in Euros and spend in the local currency," Navratil says. When Telenor launched its Serbian bank, it wanted its services to reflect local customers' priorities and this was high on the list. Telenor banka's customers enjoy favourable currency exchange rates, and can also deposit and withdraw Euros to bank when, where, and how they choose. or Dinars from Telenor ATMs.

Of course, as Fredheim says, "Mobile banking is nothing Serbia's financial sector out of a "gray new to the world." But this kind of simplified, strictly online-based banking is new to Serbia. And Telenor banka aims to provide world-class services, from banking transactions to its app design.

"We spent a lot of time developing the app and being actively focused on the customer," Fredheim says. "The logic of the app is as intuitive as possible." The Android version has a 4.5/5-star rating on the Google Play store, and is growing in popularity, according to Telenor data. An iOS version is also available, but it is less popular because

more customers use Anrdroid phones than they do iPhones in Serbia

Telenor banka has the potential to transform Serbia's banking landscape. Since its launch, mobile banking usage has jumped from 6-12 percent up to 24 percent per quarter, according to data from the National Bank of Serbia.

Speaking at the Telenor banka launch, Minister of Finance, Dušan Vujović, said he expects to see "cheaper, more efficient, and better banking" as a result of Telenor's initiative. Vujović expressed his hope that Telenor's investment in Serbia will help advance not only the banking sector, but greater economic growth as well.

'Telenor banka will expand its activities to other forms of business and become a channel for Telenor to not only be one of the leading mobile operators in Serbia, but also a channel for the investments that Serbia needs to get to the right place "We are limiting [the need for] physical presence to an and encourage economic growth and employment in Serbia," he said.

> Bill and Melinda Gates wrote in their 2015 annual Gates Foundation letter about the potential for mobile banking to lift people out of poverty and give them control over their financial lives. Telenor has long recognized the importance of mobile financial services, and partners with Tameer Microfinance Bank on its Easypaisa service in Pakistan, which gives rural communities much-needed banking options.

Telenor banka will serve as a pilot project for Telenor's online-only mobile banking ambitions, though the company's banking ambitions do not end with Serbia.

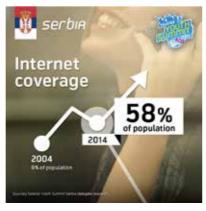
"There's no reason we can't do similar initiatives in other mature markets, such as European countries." Fredheim savs.

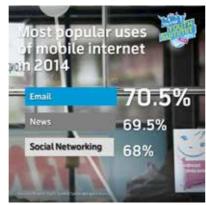
Telenor banka serves as an example of how Telenor can empower customers by offering easy, intuitive mobile financial services at affordable rates. Telenor is setting the standard for online banking in Serbia and a model that allows customers

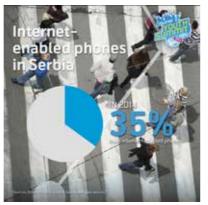
Navratil says Telenor banka is helping bring

"The most important thing for me is the fact that this is going to increase competition in the banking sector in Serbia," Vujović said. "This is going to reduce interests and increase our possibility to utilise our resources in the right way for everything









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### SWITCHING ON MYANMAR

BY BRIDGET DI CERTO

### In 2009, less than 30% of Myanmar had electricity, a SIM card could cost as much as a few thousand U.S. dollars on the black market and internet penetration was less than 1%.

Century after decades of isolation. Internet penetration and mobile phone usage have jumped significantly in the **The infrastructure challenge** 

acceleration," said Petter Furberg, CEO at Telenor country.

### Plunging into the digital world

The demand for mobile data has outpaced expectations head-first into social media.

the number of users in Myanmar, and Telenor Myanmar alone has one million followers on its local language Viber, Myanmar is the largest growing customer base of greenfield; we're all learning." any country in the world.

"It's still too early to see the total picture of Myanmar," Furberg said. "We've tried to keep a very low profile, basically because we try to manage expectations. We expectations of these two foreign mobile companies five years of receiving the license. entering the market are very high."

two million customers in the first five weeks, and 521,000 in a state of disarray. customers when we switched on the network in Yangon,"

Fast forward to 2015 and Myanmar citizens are he said. Telenor held back some of its SIM card supply to protect the integrity and experiencing a period of rapidly expanding connectivity function of the network. "Shops were screaming for more SIMs to sell, but we had to that is propelling the country forward into the 21st balance that against providing sufficient quality for existing customers."

country's key cities and for the first time, many rural areas Norwegian Telenor and Qatar's Ooredoo were among the first foreign firms to win their are starting to access a modern era of digital connectivity. way into Myanmar after a time when foreign investment was still closely scrutinized and infrastructure – both physical and legislative – was behind the times. This lack of a "From now on there is going to be an element of framework for future growth proved to be the biggest hurdle in switching on the teething

Before the two firms entered Myanmar, a tower construction industry simply did not exist, and the challenge quickly became to find a way to deal with poor infrastructure, obsolete development practices and convincing key decision makers to allocate the for mobile providers since they launched, and Myanmar's appropriate licenses for building the towers. That, coupled with no legislative precedent digital revolution has seen its young population plunge for effective approval of building permits for the construction itself, resulted in pressure on all levels of government to rapidly create an appropriate system.

Both Facebook and Viber have reported huge leaps in "The reason that things have not been speeding up is related to the challenging learning curve of building towers. In the past there were only (government provider) towers. When our companies apply for building permits for hundreds of sites, it is partly overwhelming Facebook page. For the social networking application for local officers to figure out how to deal with these expectations," Furberg said. "It's a

Digital connectivity relies on physical connectivity – the ability to construct towers across Southeast Asia's largest country that stretches from the base of the Himalayas all the way down to Thailand's most southern beaches. In a country still ranked by the World Bank as one of the most difficult places to do business, the task of constructing the web of towers want to avoid congestion in our network and deliver to connect the nation is no easy feat. Telenor, like the other telecom providers, launched a good customer experience from the start. People's and expanded in cities first, with a promise to have 90% of the country connected within

### All about the land

"The biggest challenge is that it [launching] was a huge Land is a hot button issue in Myanmar, emerging from colonialism, then communism success. When we launched, the demand was extreme – and now decades of tight military rule has left land ownership and management issues

"There is a history of land grabbing, people being driven away from the land in many parts of the country and limited documentation of ownership," Furberg said. "Therefore, we are tightly involved in making sure the tower companies obtain documentation that can verify ownership at multiple levels, and that they work closely with neighbors and the surrounding community so that everyone's aligned before construction starts."

### Into the supply chain

Where Myanmar's building codes and standards are often lackluster, if in existence, or ignored, the major telecoms operators have to meet their stringent international standards, Telenor's Manisha Dogra, Head of Supply Chain Sustainability, said there is a heavy emphasis on implementing the strict health and safety requirements for construction projects.

"Capacity building is one of the key building blocks for our sustainability approach here, whilst simultaneously making a conscious decision to apply the same high standards that we follow in all our operations across the world here in Myanmar," Dogra said. "There is no room for short cuts."

### It's not about philanthropy

Dogra understood that in launching a modern telecommunications network there would be a clash of culture in modern thinking and practice. When bringing Telenor Group's Corporate Responsibility Program to Myanmar, the components of the program were outside the box of the public's traditional understanding of many Myanmar-based companies and employees. Corporate Responsibility

"Most Myanmar companies and people's understanding of CSR (corporate social responsibility) is generally leaning towards "philanthropy" and "making donations". This is close to the Buddhist way of life as well and has been practiced by the society and business for a long time," she said.

"In Telenor, we talk about CSR as Sustainability. We knowledge of mobile networks and the enablement of connectivity - to create a positive impact on society rather than pure philanthropy. This is definitely something new for Myanmar," she said.

### A customer first mentality

are also linked to the nation's sparse history of mass customer service.

"Myanmar has a long history of commerce, but not a long





history of customer service," said Arvinder Singh Grewal, a customer service executive from India who is now heading Telenor Myanmar's call centre.

Grewal said the concept of "customer first" is novel for

"We faced a challenge of identifying and training a service mindset [within the staff] and our proposed customer service operator partner, since we outsource the manning of the call centre," Grewal said, "This was a challenge as no one has ever worked with the goal of 'delighting' consumers of the mass market here.'

There was also the challenge of educating subscribers so that they could understand that with modern mobile utilize the core strength of our business - which is our services comes an entitlement to effective customer

> "The general belief is that you can only get service in face-to-face meetings," Grewal said. "It is perceived as impolite to complain over the phone.

The challenges of doing business with local entities "Without transparency and honesty (from consumers) it is difficult to come up with local solutions dedicated to local culture, but slowly we are getting feedback and appreciation for our services," he said.

### A four-player market is emerging

With the passage of Myanmar's first modern tranche of telecommunications legislation, the re-launch in 2014 of government provider MPT with the assistance of Japanese telecoms company KDDI, and the expected launch this vear of smaller local outfit Yatanarpon Teleport (reported to be in collaboration with Vietnamese telecoms operator Viettel), the government's vision to have four major players in the telecoms market is emerging.

Exploding from just one provider to three – and perhaps soon to four - hasn't saturated the market, however. According to Furberg, "The demand has been insatiable."

Bridget Di Certo is an Australian writer who has been living in Southeast

Asia for five years. She is the author of two published books and has written numerous articles on social and legal issues in the



The past couple of years have been challenging in the Big Data world. The NSA surveillance revelations leaked by Edward Snowden reverberated around the world, sparking global debate about privacy and security. Millions of customers turned suspicious eyes toward telcos and massive data collectors such as Google and Facebook, fearing that details of their private lives and correspondence were vulnerable to exploitation and government intrusion.

The conversation about user privacy is an important do new things." one, and discussions will evolve as more of the world's is so sure that's a good thing.

amassing information on defenseless consumers. It's social good and personalised customer data. also a powerful tool for enacting social change and giving control of the data back to the people.

customers around the world.

customers into this happy future. We want to innovate, see how often a customer experiences dropped calls or

population comes online. People will increasingly Customer insights from Telenor's wide user base allow use the internet and mobile devices for socializing, the company to do that. Customer insights refer to banking and communicating which means more of their data usage on call frequency, number of SMS sent and personal information will end up in the hands of major received, mobile internet activity, and even locationcorporations. It's the way of the future, but not everyone based mobile information. This data allows Telenor to strategize on customer service and marketing, as well as develop new ways to put the data to use. Telenor uses But Big Data doesn't just refer to faceless institutions customer insights in several areas, including business,

### Big Data Means Big Business

Telenor uses customer data to prevent churn, improve The realm of customer insights provides boundless customer service and develop pricing plans and offers opportunities for Telenor to improve the lives of catered to different markets. Ten years ago, the renewal period of a customer's contract was the only way for Telenor to know that he/she might leave for another "The internet is the future," said Geoffrey Canright, provider. In the Big Data era, Telenor uses sophisticated head of the Data Analytics Group at Telenor Research. models that combine a large set of data to predict churn "The voice part of the telephone will become less and and create customised offers for users whose contracts less important as time goes by. We want to lead our are up for renewal. Very soon, data analysts will be able to

slow mobile internet speeds, which allows the company to proactively repair the relationship and entice the customer to stay.

"Data scientists will find out which types of events are probable. We are taking an action before the customer is taking his own irreversible action," said Piero Trivellato, head of Telenor's Customer Insights department.

Customer insights also provide useful information for the marketing side of the company. Telenor uses sophisticated data models here as well, to offer users and usage history. In the same way that Amazon recommends books to readers based on past Kindle purchases, Telenor can recommend antivirus software or other relevant products according to what is known about each customer.

Telenor customers in Asian markets tend to favor lowcost, pre-paid mobile phones that they can top-up as needed. The company now has the ability to analyze those top-up patterns in real time and offer deals

offers on mobile internet.

Telenor wants to bring all of its customers online, recognizing that mobile technology will transform the way people live their lives. Knowing the different entry points for users in its varied markets allows Telenor to reach customers in appropriate and effective ways.

### Using Data to Give Back to Customers

Telenor operates in a number of the world's emerging markets, including Myanmar, Bangladesh, and Pakistan. Telco data is invaluable in these countries, where personalized recommendations based on their product governments, humanitarian aid teams, and civil society workers are still trying to develop infrastructures for health, education, and finance. In cyclone-prone Bangladesh, mobile data allows governments to determine where people flee during the storms. Such information is vital for future planning, and for knowing how and where to help people in the event of disasters. Telenor can provide this based on the data it collects on mobile users in Bangladesh, as people are likely to be using their phones during a time of emergency.

> Telenor is also in the early stages of exploring a new frontier: creating new ways for customers to interact with data about themselves. Researchers are developing graphics that show users their own "mobility footprints," including where they've been while using their phones and what kinds of services they're using, according to Canright. Not only does this give customers "cool visualizations" of themselves, the data also provides useful information, such as which apps are draining their batteries fastest.

### Knowing the Limits, Cultivating Trust

Of course, increased data collection comes with increased privacy concerns. Both Trivellato and Canright say Telenor maintains high standards of transparency and responsibility when using customer data. Canright said users would have the choice to opt in or out of a data visualization program, and emphasized the importance of informed consent. Trivellato said Telenor wants to make sure users know what data is collected and why, and how the information is being used.

Industry regulations are meant to prevent telcos from becoming too invasive in their data collection, but Trivellato said Telenor goes beyond the standard guidelines. He said Telenor is constantly exploring new ways of utilizing customer data, but has also stepped up its emphasis on sharpening proper customer consent mechanisms and data handling requirements.

"We are trying to be very innovative in the way we use data, but given Telenor's mantra about customercentricity, privacy management is on top of our attention," Trivellato said. "The industry is moving, yes, but we are trying to be better."



on packages based on customers' current and past purchases, according to Trivellato.

Usage insights also tell marketers who to target for certain kinds of offers. In rural areas, it's important to distinguish literate customers from those who cannot read. Someone who uses SMS frequently is likely literate, and therefore a good candidate for special introductory

Telenor can recommend antivirus software or other relevant products according to what is known about each customer.

### THE FUTURE IS bright FOR SATELLITE With our largest-ever satellite ready to launch this year, Telenor Satellite Broadcasting looks forward to further extending its position in the market and expanding its European footprint.

has undoubtedly established itself as a key provider of and to ships in Europe's busiest shipping lanes, offering working aboard shipping vessels. attractive satellite coverage in key regions, stretching from Greenland to the Persian Gulf.

### Keeping our customers connected at remote locations

"There are some big changes going on at Telenor Satellite Broadcasting", says CEO Morten Tengs. "With the launch of THOR 7, our growth satellite, TSBc will be undertaking a business shift, focusing further on increasing our market share in the maritime and offshore sectors, where we already hold a strong position in Northern Europe for the provision of maritime satellite communication services. As soon as THOR 7 is ready for commercial operation, we Counting down to lift-off can look forward to further extending our services and Telenor Satellite Broadcasting is counting down to THOR markets throughout Europe."

our customers' growing demands. Over the years, requirements for robust and available communications

Over the years, Telenor Satellite Broadcasting (TSBc) at sea, similar to those offered by traditional terrestrial networks on land, have grown exponentially. Increased satellite services throughout Europe and the Middle East, use of IP applications - such as broadband internet with an increasingly international focus and an ever- access, VOIP (Voice over IP), telephony, and video broader customer base. Today, we bring TV to close to 18 streaming – and improved access to corporate networks million homes throughout Europe via satellite, and also help those as sea to stay in touch with business provide essential communication links to oil and gas rigs operations, and also improves the quality of life for crew

### From Europe to the South Pole

As well as supporting future growth in the distribution of data communications and TV in Europe, THOR 7 will also provide faster broadband connections from the South Pole. Utilising capacity on THOR 7, Kongsberg Satellite Services (KSAT) will provide the Norwegian Troll base located at the South Pole, with a dedicated satellite broadband link to distribute meteorological and environmental data from numerous earth-orbit satellites to user communities across Europe and the US.

7's lift-off, which is expected in early Q2, 2015. THOR 7 will be launched from the Guiana Space Centre in This expansion has been driven, quite simply, by French Guiana, a location close to the equator at latitude of 5.3° North, which makes it ideal for missions into telenorsat.com.



Telenor Satellite Broadcastina (TSBc) is a maior European satellite provider of broadcast and data communication services for customers in the broadcast, maritime, and oil and gas markets. The company is 100% owned by Telenor Broadcast Holding AS, a wholly owned holding company of Telenor Group.





### Free time is f & C time with sabse sasta internet plans.



Uninor is a fully owned subsidiary of the Telenor Group and offers pre-paid GSM mobile services in the six telecom circles covering more than 50% of India's population. Over 42 million Uninor subscribers enjoy benefits of wireless voice and internet services through its simple proposition of 'Sabse Sasta' (affordable) tariffs.

For more information, please visit www.uninor.in | www.twitter.com/UninorNews.





### MY EXPERIENCE OUTH SUMMIT

Ashrarul Hag Sifat, Telenor Youth Summit 2014 participant from Dhaka, Bangladesh

I always had a dream of travelling the world and meeting access to the resources are vital for development. I also new people, so the most exciting part of the Telenor Youth Summit for me was meeting the 26 other participants can save millions of lives. It just needs to relate to people from 14 different countries. These 26 bright minds have all given me an exciting picture of their respective societies. And by working with them I have also come to know about their problems, of how problems evolve from one society to another and how closely we all are

With the world going digital the power of the internet and connectivity is greater than ever. E-learning, agriculture, economic networking, politics, e-governance, health, smart transportation, energy consumption, safety and security are some of the fields where mobile connectivity can hugely impact societies. The ideas discussed during the Youth Summit address these issues and I find them implementable in my society too. It was clear that once we got back home we should develop partnerships and scale our ideas to gain traction.

As part of the summit, we worked on how digital communication can help the Nobel Peace Center to spread the values and lessons of Alfred Nobel, the Nobel Peace Prize and its laureates. It was about new research and development to spread the awareness and necessity for peace. The common idea was about creating a global platform for young people who are active enablers of these values, the sufferers from the conflict zones, and giving the megaphone to these young peace ambassadors. This was the most meaningful discussion session I ever attended.

We also heard from one of the initiators of Wikipedia Zero, which is popular in many developing countries, including mine. The message was clear. Education for all and learned from UNICEF Norway on how a simple innovation and the problems we face.

It is not possible to describe in words, my feelings and also the whole Oslo City for being such a close witness of the Nobel Peace Prize ceremony. I guess the flaming torches from the torch parade for the Nobel Peace Laureates are a symbol for that spirit ablaze.

And finally, we had the CEO challenge: what is the biggest priority in 2015 so that mobile and digital technology can create positive changes in society? At the end, one thing became obvious to me. Telenor really cares about using its huge technological resources to its full potential, reaching the unconnected and inspiring people to explore new horizons. And they are counting on us, the youth, to connect to each other, bring new ideas, foster collaboration and make those a reality. Don't just sit in your comfort zone and follow the stream. Be the change you want to see. That's a life lesson I'm taking from the Telenor Youth Summit.



near water by using a warning system to prevent a large number of drowning accidents in Banaladesh each vear. This is a technology-based system called Digital Maduli, Ashrarul is passionate about innovation and





### **About Telenor Youth Summit**

Youth Summit in December 2014. 27 young fuel inclusive growth and foster cross-border opinion leaders, current and budding social part in the summit, organized in partnership share ideas and discuss how mobile and continue driving positive change in society.

Telenor Group hosted its second ever Telenor digital communication can improve lives,

summit provided these digital natives from we do in Telenor. We wanted to tap into the

### Trend Watch 2015

Fredrik Åkerlind is VP of Sales of Telenor Connexion, a leading enabler of connected services. Telenor Connexion is a fully owned subsidiary within Telenor Group focusing solely on designing and operating connected business solutions. Fredrik brings more than 15 years of experience within the telecom industry, holding several different management positions. Previous experiences include the position as Manager of Telematics/M2M in Telenor Sweden, the successful business unit out of which Telenor Connexion was sprung.



Telenor Connexion's VP of Sales Fredrik Åkerlind gives us his views on the latest tech trends unveiled at the international Consumer Electronics Show (CES) 2015 in Las Vegas.

At CES 2015, we saw more "smart" and connected products than ever before, including everything from watches and socks to home appliances and autonomous cars. It seems there's nothing that can't be connected to the Internet.



THE GLOBAL STAGE FOR INNOVATION

### Self-driving cars in the front seat at CES

The automotive industry has been connected for a long time, but now we are beginning to see examples of exciting new solutions. This year's fair showed cars that can park themselves, gesture-based systems to eliminate driver distraction and cycle helmets that can communicate to avoid collisions. Mercedes-Benz presented its futuristic-looking F015 Luxury in Motion concept car, which unlike other self-driving car, has a steering wheel so drivers can reclaim control. Audi showcased a car that can arrive to pick up its driver with the touch of a button on a smartwatch.





### (1)2 An unhealthy number of health wearables

Wearables, the darling of last year's CES, is still a hot topic with a massive number of healthcare companies trying to get consumers to measure their steps, their sleep, caloric intake and any other unit that might be seen as a measure of "health". One of the most talked about gadgets is Belty, a motorized "smart belt" from Parisbased startup Emiota, which constricts and relaxes itself based on whether you're sitting or standing. It will even send a warning to your smartphone when it thinks you're getting lazy. Some of these gadgets are not for humans only. WonderWoof is an app and device that tracks a dog's training and health. Intel showed off an incredible computer called Curie that's the size of a button and can turn ordinary clothes into wearables.

### **03** Smart textiles

Speaking of clothing, the latest fitness trackers can also be woven directly into shirts, shorts, socks and pants - meaning clunky wristbands might soon be a thing of the past. With sensors being placed precisely where they need to be, hidden and flexible, smart textiles can solve some of the problems seen by wearables. What about smart socks that not only measure your jogging rhythm, but also gives warning if you land incorrectly on the sole of the foot to avoid damage, a shirt for tracking tennis performance or a pair of cycling shorts for recording rides? Another cool item is the ReST bed, featuring a proprietary smart fabric and sensors to track your sleep habits, and it uses that data to make sure the bed stays comfortable as you toss and turn at night.



### **06** Baby's best

Another impressive connected device that will actually improve the lives of people, specifically premature babies and their mothers, is BabyBe. The cradle or air sack mimics the heartbeat and chest movement of the mother, giving preterm babies the chance to experience their mother's presence even when confined to an incubator. Sensors in a control unit that the mother holds against her chest are wirelessly transmitted cradle. The base station can also record the data and play it back at a later date if the mother isn't around to share her heartbeat in real time. The idea is that the movement actually soothes the child and allows them to heal and develop faster



The halls of the CES were buzzing with drones. They included the Nixie, a wearable drone that launches off your wrist to take your selfie. There were flying drones to carry loads, to fly into tight spaces, to provide lighting and just as toys. Some of the drones were even equipped with "follow me" technology, enabling them to track and film anyone wearing a device on their wrist.

# They e, a oe oys. were follow abling film ce on

### **05** Robotics

Standard non-flying robots weren't left out of the CES party. Droplet, a robotic sprinkler, understands plants and knows how much water to give them, while Budgees are robots that can accompany you as you shop, so you don't have to use a shopping cart or basket and keep both hands free. Exoskeleton is another device that helps people carrying heavy loads. Toshiba takes it a step further, showing off a robot that is eerily similar to a human. It even sings "Country Roads" slightly out of tune with a Japanese



### [07] Smart homes, big brands

There are tons of smart home tech accessories designed to make your life easier through connectivity. Bosch is helping homeowners take complete control of their heating, cooling and water temperatures by using an app for smartphones and tablets. Another application that makes lives easier is Home Connect, which acts as a control center for the family of Bosch-related brand appliances like the oven, dishwasher and refrigerator. Later this year, General Electric will bring its connected laundry washer and dryer, fridge and dishwasher to the market. The connected washer keeps users from leaving their laundry in for too long, providing a warning when wrinkles are going to set in on clothes. The app also shows the progress of the wash, how much time is left, and keeps track of how much detergent is left.

36 | Reach | 37

Soon everything and anything could be 5. Identify the product currently NOT on 10. There are internet-enabled dustbins. connected to the internet. With billions of the IoT product list devices currently connected the possibilities a. Basketball seam endless. How much do you know about b. Toothbrush IoT? Test your IoT IQ here!

### 1 How many devices are estimated to be 6. The following animals have all been connected to the internet by 2020?

- a. 0.5 billion
- b. 2 billion
- c. 50 billion

### 2. What does IoT stand for?

- a. Iota of Time
- b. Internet of Things
- c. Internet on Time
- 3. The term IoT was proposed \_\_\_\_ in 1999.
- a. George Clooney
- b. Kevin Spacey
- c. Kevin Ashton
- 4. The huge numbers of devices connected to the internet have to communicate automatically, not via humans. What is this called?
- a Machine-to-machine
- b Bot-to-bot
- c Skynet

- c. Hammer
- connected: sheep, cow, bee. True or False?

- 7. April 9th was first observed as b. 15% the global IoT Day in the year \_\_\_\_\_.
- b. 2011
- c. 2013
- 8. According to GSMA how much could a. 10 the business impact of connected devices b. 20 be worth in US dollars in 2020?
- a. 45 billion
- b. 4.5 trillion
- c. 45 trillion
- 9. Telenor Connexion has developed a solution for connecting birds. Why?
- a. To help biologist save endangered species
- b. To help measure how long distances birds can actually fly
- c: To help deliver mail

What benefit does this provide?

- a. The bins can report vandals
- b. The bins can ask to be emptied
- c. The bins can sort recycle materials
- 11. Connected energy displays at home showing consumption in real time help save energy. How much is the energy consumption usually reduced by?

TELENOR.

THE DIFFERENCE IS

IN THE NETWORK.

- c. 25 %
- 12. On average, how many sensors does a car normally have that potentially could be connected?

- c. 100

### YOUR SCORE:

### 9-12 correct:

You're an IoT genius!

### 5-8 correct:

You may know a little but still have some catching up to do. Time to hit the internet and boost your IoT competence.

### 0-4 correct:

Fail! Don't give up your day job to pursue a career within IoT.

### YOUR

Per Simonsen is CEO of Telenor Connexion, Telenor's company dedicated solely to IoT and M2M. Per Simonsen has served in the telecom industry for 20 years most of the time within the Telenor Group. He has held a number of leading positions and been instrumental in the international expansion of Telenor since 1995. Prior to taking on the position as CEO at Telenor Connexion in February 2009, he served as Senior Vice President and Head of Group Strategy at Telenor Group.

Follow Telenor Connexion on Twitter @t\_connexion, LinkedIn or Facebook, or read more at www.telenorconnexion.com.



**ANSWERS:** 

9a To help biologist save endangere 10b The bins can ask to be emptied

3c Kevin Ashton 4a Machine-to-machine

**GREAT COVERAGE OF SERBIA** Our desire to always be where you are has inspired us to constantly upgrade our service and expand the coverage of our network. FAST MOBILE INTERNET Get the most out of your smart device with Telenor Smart Network and fast internet connection. SAFE NETWORK Telenor Smart Network is secure and reliable. Your personal data is protected in the right way, and we enable you to have safe data transfer while using innovative services.

