

Machine Learning:

Why Is It Becoming a Thing now?

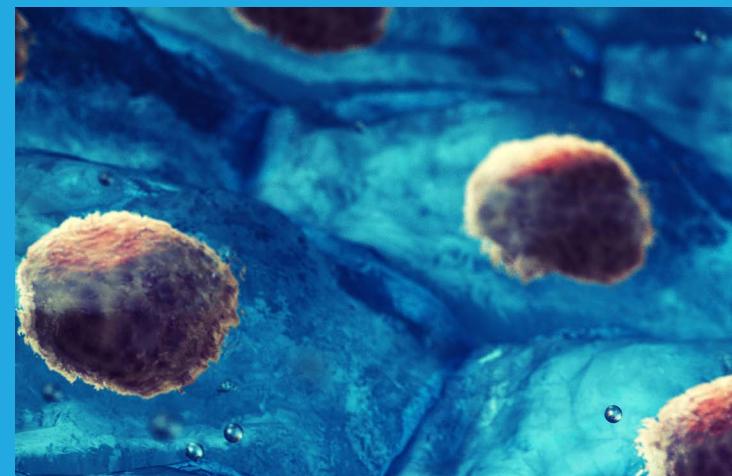
- **DevOps:**
How to Prepare the IT Infrastructure
- **Remote Working:**
Coding from the Rooftop Terrace
- **The Promised LAN:**
Creative Network Names





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Editorial

Hi, and welcome to ORAWORLD!

What a pleasure that you have chosen to explore this particular issue of ORAWORLD, which is again packed with Oracle technology and shared experiences from Oracle users all around the world.

Nowadays, we all tend to improve every aspect of our lives. As user groups, we constantly aim at improving our conferences, and of course this magazine, and we use more and more machines in order to improve visualization and performance. I myself work at a cards payment processing company, and after reading the article by Heli Helskyaho on [page 15](#) about Machine Learning (ML) concepts, I started to think that maybe it could be nice to have ML in ATM and Internet credit card processing with a special fraud detection system. Fraud methods are constantly changing, so special machines could write rules to uncover fraud transactions. They would constantly learn and forecast what might happen in the future. In our company we use ITIL processes to change fraud rules in the system, and to do it properly, you need to test and install it, and it could take a lot of time. With an ML and DevOps approach, it could be much easier. The objective is to eliminate bottlenecks and to minimize the throughput times of the separate tasks as much as possible. To learn more about the DevOps approach, you should check out Florian Feicht's article on how to prepare your IT infrastructure for DevOps on [page 22](#).

So as you can see, you will find a lot of inspiration for your daily work and life in this issue! And if you ever thought about working remotely or want to improve your work as a team, don't miss the article on [page 6](#) by Steven Schwenke.



Andrejs Vorobjovs
LVOUG President (Latvia), EOUC

Another aspect on the constant change of our (work) environment is the use of machines as tools, such as drones, to help us make our work and lives easier and safer. Explore in my article on drones on [page 26](#), how drones are nowadays used professionally, ranging from train inspection to fire fighting and more.

These are just some examples of the great articles in this ORAWORLD magazine. I hope you enjoy browsing through this issue! Please remember to submit your content for the upcoming issue online on our website: www.ORAWORLD.org. Deadline is August 9, 2018.

Yours,
Andrejs Vorobjovs

Submit Your Article!

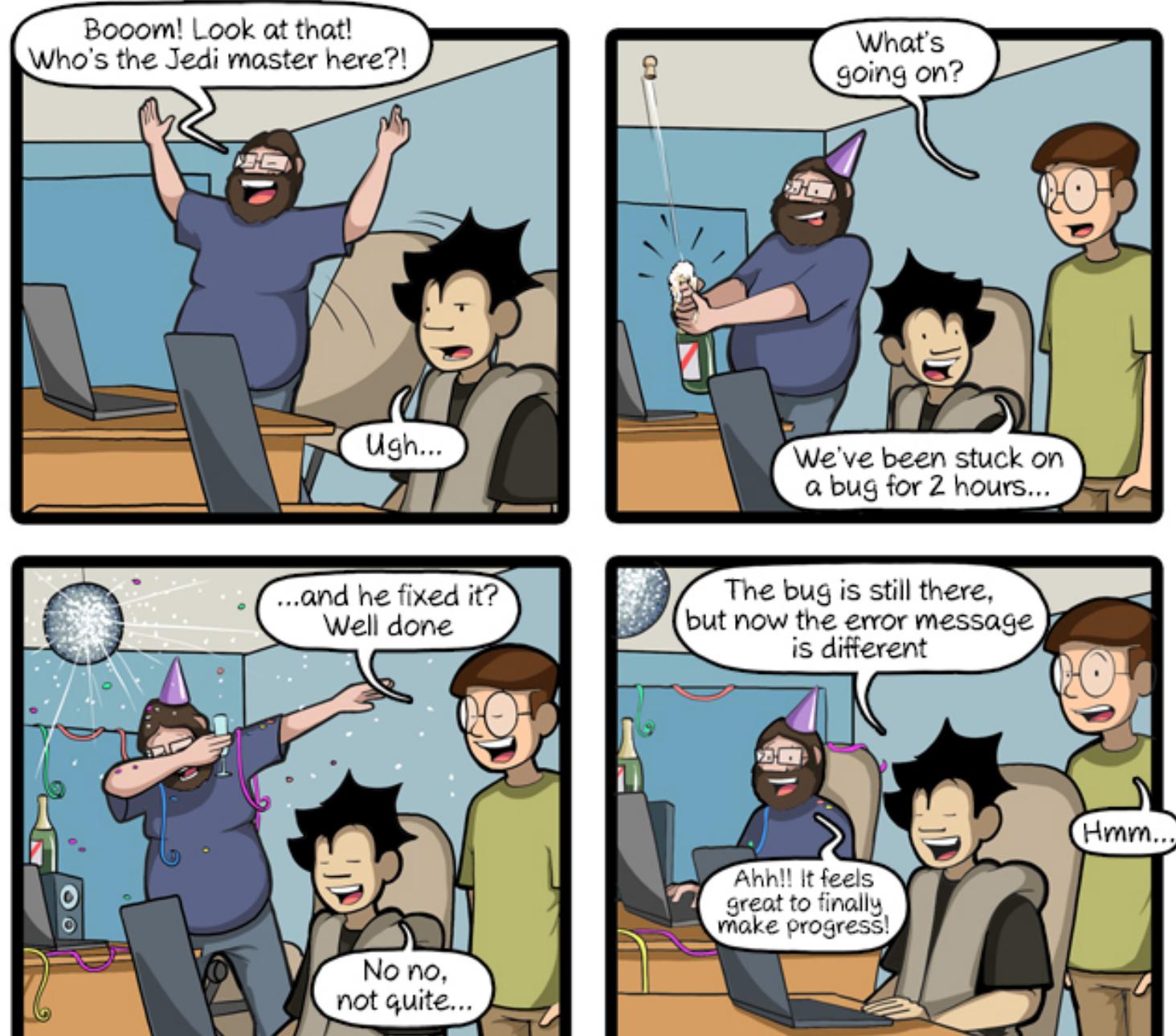
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Basic Functionality

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Coding from the Rooftop Terrace

Steven Schwenke



Decentralized work is nothing new, but it is often prohibited due to many misconceptions and unanswered questions. Causes can be found in missing training of the participants and in process adjustment. Read on for an overview of how development work shifts to nearshore, how we can be happier working remotely, what to watch out for when introducing decentralized working, and how participants can be trained.

Eight hours daily on the project field, a brief lunch break in a bad canteen, accompanied by a two-hour car ride, obviously at the same time as everybody else. We all know this daily routine, some call it "day prison". I myself have lived such a routine for many years, until a new project brought a cooperation with Romanian colleagues and a new role as TechLead. Both aspects led to a significant plus in communication with team members and architects from other teams.

Joint conceptualization, quick exchange of information, and many small questions and discussions dominate my days since then. Contrary to the general opinion that this is only possible in a common office, I experience the opposite day-to-day. The many Skype conversations are the final aspect that would simply not work in an open space office. But first things first. What exactly is "remote working" or "decentralized work"?

Decentralized Work Takes Many Forms

Experience has shown that decentralized work already starts when colleagues are working on a different floor. It is often easier in such a case to write a mail or a short message than going there yourself. When the communication goes digital due to location, it effectively does not matter if the colleague is in the same building, in the café around the corner, or simply in a different country. The result is the same: Quick intermediate communication is handled digitally, longer meetings must be organized.

This shift to decentralized work often leads to a significantly higher degree of freedom. When the technical and social challenges are mastered and the team works well together, everyone can work where he or she wants. This in turn often leads to freedom in terms of time: Work can be done at any time you want, as long as common deadlines are met.

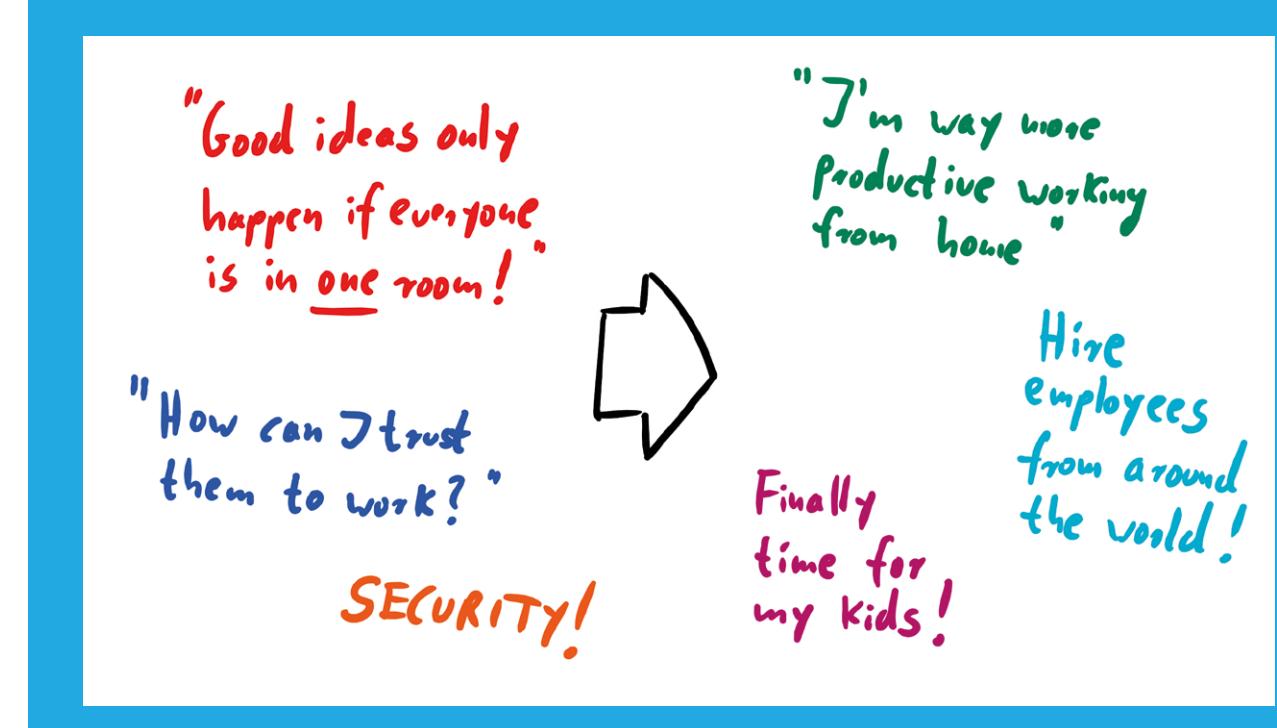


Figure 1: There are many prejudices and assumptions that are opposing the positive options

The combination of freedom in terms of location and time can move motivated employees to give the employer the premium hours of the day: When you cannot concentrate anymore after the first tasks, you can go running during a longer break. After that, you are fit again and can go back to work. When you work from home, mowing the lawn in the afternoon relaxes you and gives you time to think about your current task. In contrast, you may sit out the low periods when you work in a common office in a single-site team. This neither helps the project nor gives the employee a good feeling – it simply costs energy and money (see Figure 1).

The scenario described obviously is an ideal world. But it is possible and can work. For this purpose, an active examination of individual processes, tools, and employees is necessary. Moreover, there must also be a foundation of trust between them.

Decentralized Work Must Be Learned

A successful introduction of decentralized work affects many areas (see Figure 2):

- employees
- social environment
- domestic environment of the employee
- project team
- internal processes of the company
- customer
- company

You Are the Most Important Factor

The most essential aspect: Decentralized work does not work for everyone, not for each role, not for each team – and it does not automatically lead to faster work. Everyone must decide if he or she can work from home or not. If you take this step, make sure that you keep an eye on your sportive activities. Otherwise, you would hang around at home all day and not have much exercise.

Psychological aspects must also be considered: The old joke of the developer sitting in the video chat without trousers is partially true. Letting yourself go at home leads to dissatisfaction. It is better to wear your usual work clothes in order to switch your head to work mode.

Keeping the Social Environment Healthy through Activity

A psychological factor that should not be underestimated is the imminent isolation: If you only work from home, you have more time because you do not have to commute – but how you use this gained time is decisive. A good thing would be social interactions like meeting friends, going out for a walk with the family, or new hobbies in clubs.

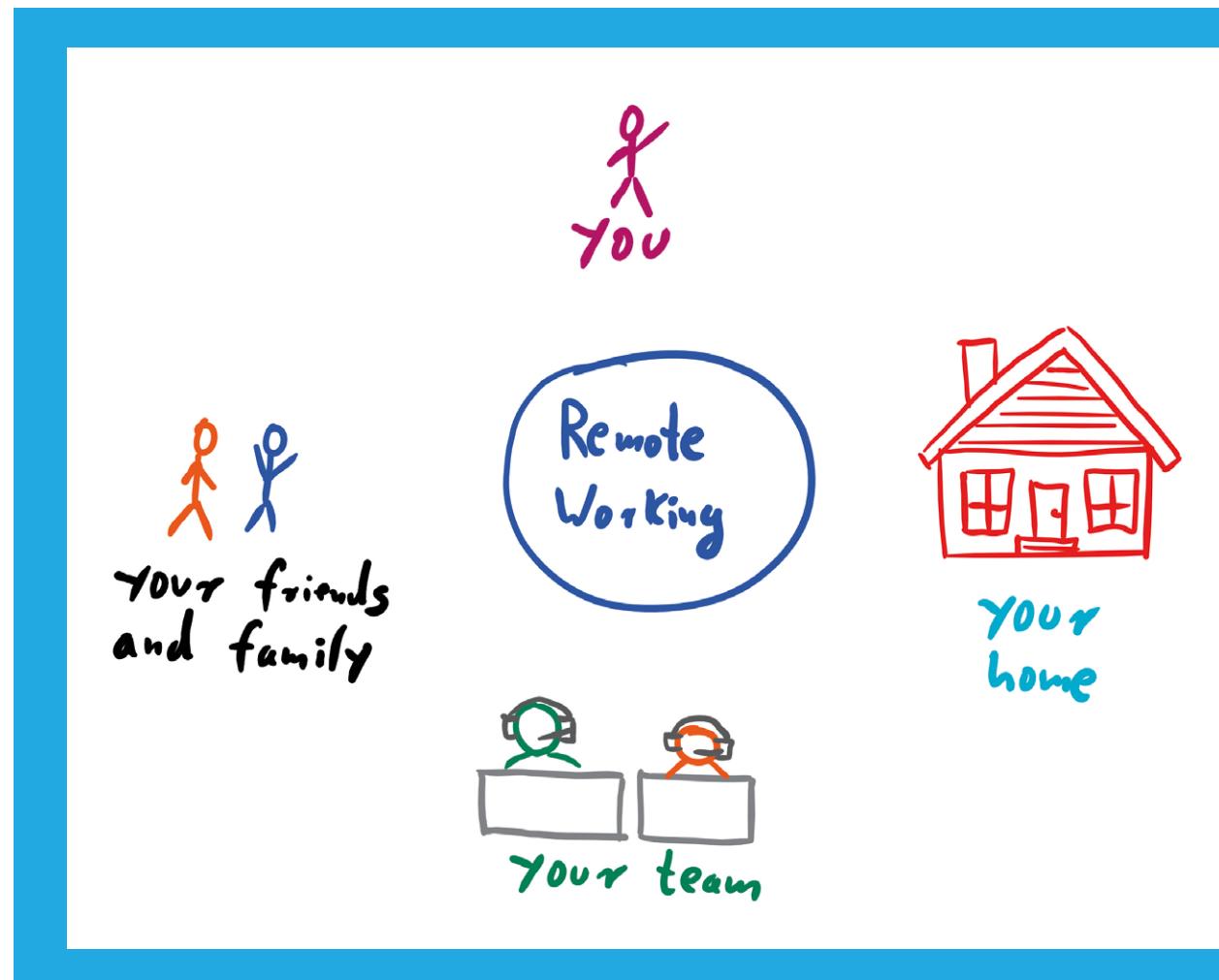


Figure 2: Working decentralized not only requires individual adjustment but also adjustment of the environment

Good combination: Team sports. The social contact area with colleagues should also be strengthened.

I organize upcoming appointments to ideally utilize on-site office days in the company. Gaps between meetings are used actively for spontaneous conversations. With this approach, many problems have been solved incidentally. Additionally, I am in the company each Friday for the games afternoon to spend my leisure time with my colleagues.

Only a Good Home Office Enables Professional Work

Many developers want to work from home but they do not have a real work environment. For various reasons, you should have an individual room as office and you should have high-quality equipment. That is one of the downsides as a remote worker: If you want to work from home, you have to invest first. The situation behind your own desk should also make a professional impression to make sure that – when on Skype – the customer does not get insights into your untidy apartment. The simplest solution is a (clean and poster-less) white wall. Your cat running over the desk may cause a smile and fodder for conversation in your team but not every customer may like that.

Communication with the rest of the family is also a decisive factor. When you work from your home desk, you are still not really home and absolutely approachable. This should be communicated very clearly. Agreed signals such as signs at the door of the home office or coordinated times for joint activities and “do not disturb” phases can be of assistance.

The Team Must Function “Remote” – With All Consequences!

When work is carried out in an international project, language skills are a decisive factor. A standard language and also a standard time have proven to be advisable. In doing so, you avoid repeated questions regarding the language of a report or which time zone is relevant. The language must be trained outside of the regular project routine to avoid communication errors. These trainings must also include colloquial phrases to work closer to the everyday language level and also to be confident in casual situations. Accents and linguistic specialties must be articulated to use targeted trainings to achieve a higher language level that is understandable for all participants. It is not of much use

when a Hollywood-English-speaking Indian, influenced by American films, discusses complex issues with a school-English-speaking German, for example.

But not only the spoken word is communication, writing must also be learned. Written documents (in a wider sense of user stories, error descriptions, comments for code review etc.) play a big role in teams with different time zones. The higher the reading comprehension and also the skill to write compactly, the easier the know-how transfer (*see Figure 3*).

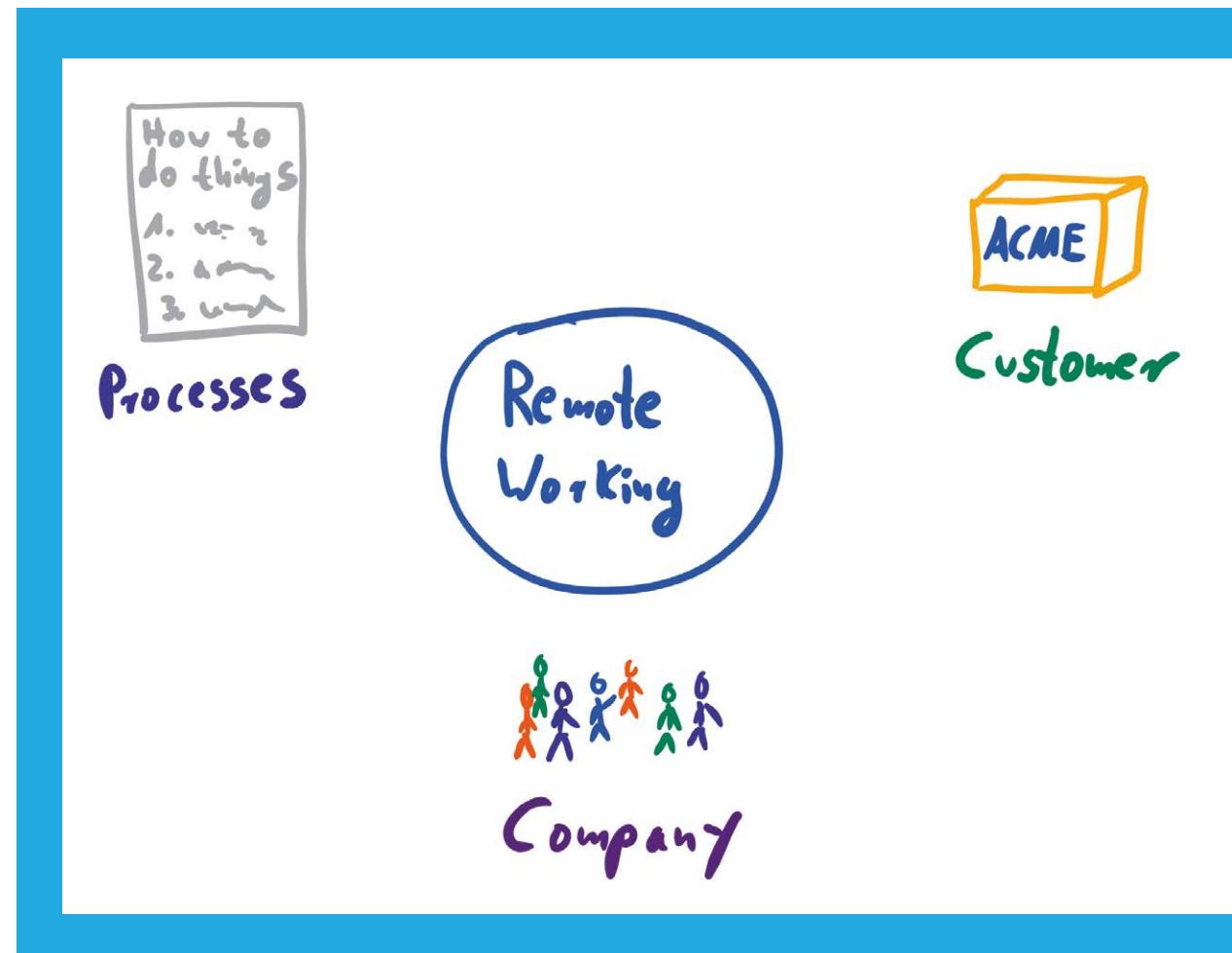


Figure 3: The participating stakeholders and processes must also be adjusted

Processes Should Support Work, Not Prevent It

Company-internal processes should also be adjusted to the new setting, as well as the software development process itself. As early as at the staffing of the new project team, a mandatory physical meeting of the whole team should be planned and factored in. "Invest in beginnings" means to particularly strongly built up the team at the beginning and determine basic rules.

A couple of days in the country in which the majority of the team is located, including much leisure time together, builds social bridges that can be helpful in later problem-solving. The basic rules for cooperation should also be determined in such a get-together by the team itself. In case of any change in personnel, but at least twice a year, a cooperative workshop should be repeated. A nice quote from a developer of my team is: "You don't remember Skype-meetings, but you remember when the team met in real-life."

The currently very popular development methodology Agile plays a special role in conjunction with decentralized work. Be it Scrum or Kanban – agile methods are eminently suitable for distributed teams. An important aspect is the maximum amount of time until arising problems must definitely be discussed. In a joint office, you notice when a team member is frustrated in front of a task the whole day, when he or she does not make any progress, and complains loudly. This does not work in a decentralized team.

In an agile environment, there is a meeting after a 24 hours period in which each developer can report problems and ask for support. Even when, for instance, a junior developer does not report after this period, a well-trained team and a thoughtful Scrum master should notice when the young developer cannot report progress for two days in a row. The sizing of small task packages and the basic principle of self-organized teams also support decentralized work.

Having the Customer Integrated and Making Him Understand

The customer can react in many ways to the concept of decentralized work. There are companies who enforce offshore teams due to cost pressure. But the department can still run into problems in the daily work when you are used to the developers sitting in the office next door and you have a good insight into the daily development work.

"Seeing is believing" is a good approach to prevent problems. In my project, the customer is invited to the daily stand-ups. The customer was informed that the team is still owner of the meeting and the customer is only guest. The objective is to have the greatest possible visibility of the team with its current challenges. Smalltalk before and after the daily is used to talk about cultural specialties such as holidays or feasts and thereby getting a better understanding of each other.

Dare Remote in the Company and Take Advantage of New Opportunities

All the practices suggested in this article cannot be implemented when your company prevents them. Frequently, there is a false impression of what decentralized work brings with it – both additional tasks and costs but also opportunities. Almost every IT company is desperately looking for new employees but they cannot find enough and/or not with sufficient quality at the desired location. But when you expand your own location to country or European level or even to worldwide, the probability of finding really good employees increases significantly. For this purpose, several processes and ways of thinking must be changed. For a start, marketing does not work with local job advertisements or handing out giveaways at local conferences anymore. The company must be visible in the whole region in which it wants to find employees. Sponsoring of major conferences or writing articles in specialist journals is a first

step. Objective of these measures should be to inform potential candidates regularly of the fact how interesting the work is in the company, which new technologies are used, and which innovative projects are currently worked on.

"Do good and tell about it" can lead, for example, to a higher attention when the company supports open source projects in the developer community which in turn draws interest. Carrying out individual and meaningful events for developers increases visibility and externally shows professionalism. When these events are streamed live or offered as a webinar, the distance to potential candidates from other regions is decreased even more. All these measures follow the principle to see and use the opportunities of decentralized work. There are many reasons for companies not to work in a decentralized way. Frequently, prejudices and insufficient information on this subject are mistaken for these good reasons.



Steven Schwenke

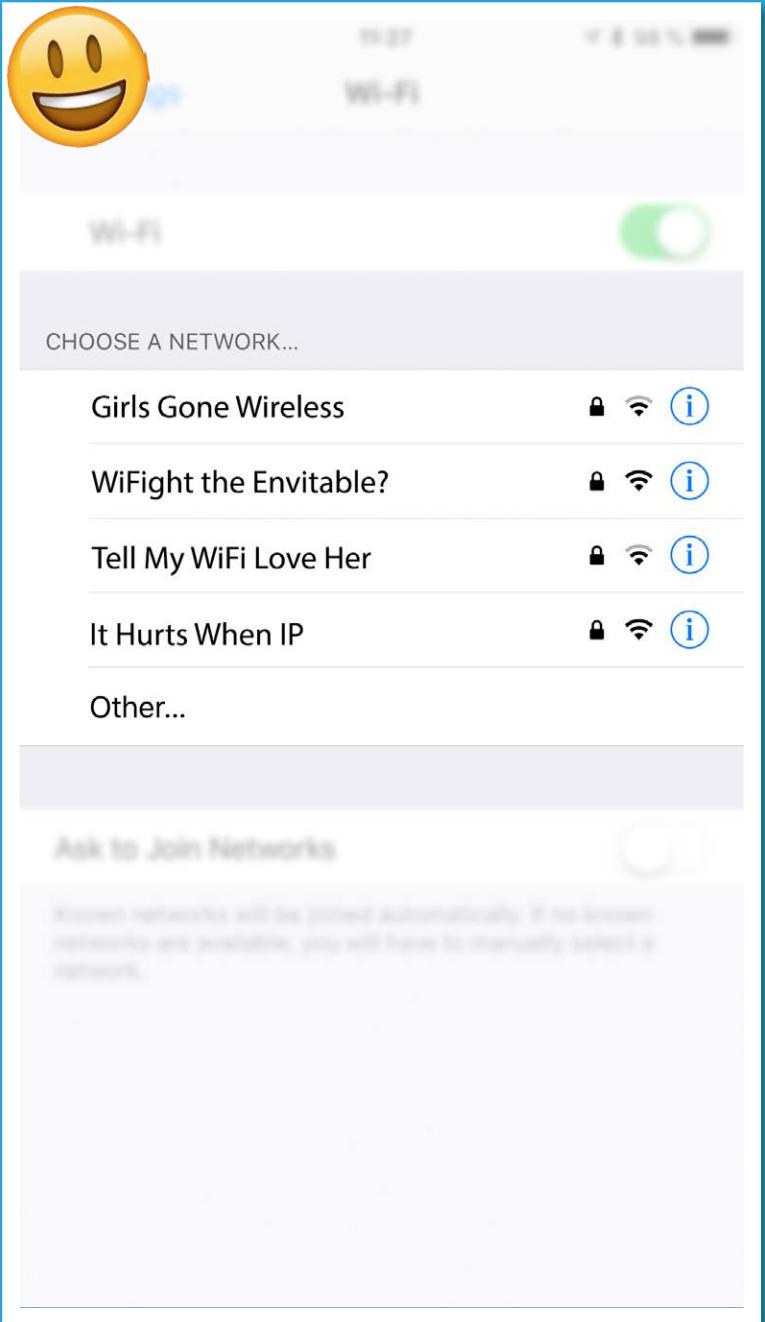
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Lisa Damerow The Promised LAN:

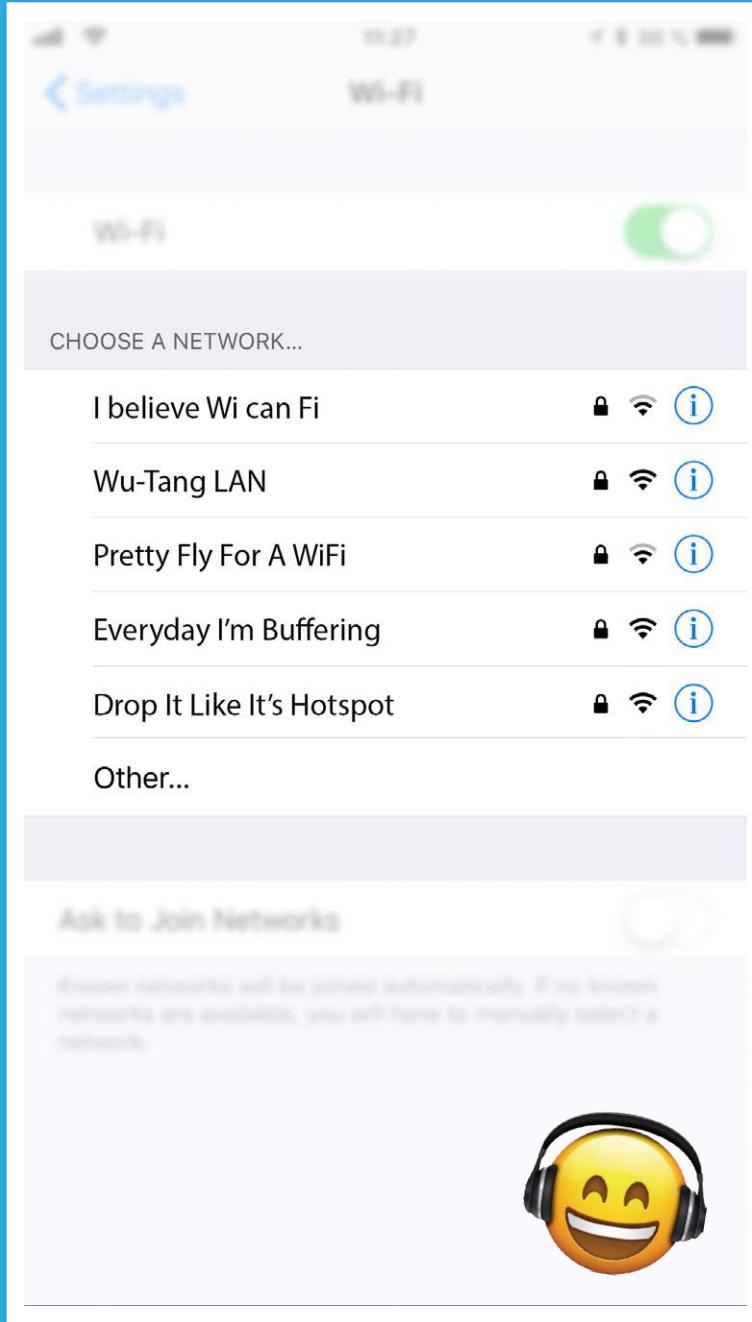
Creative Network Names



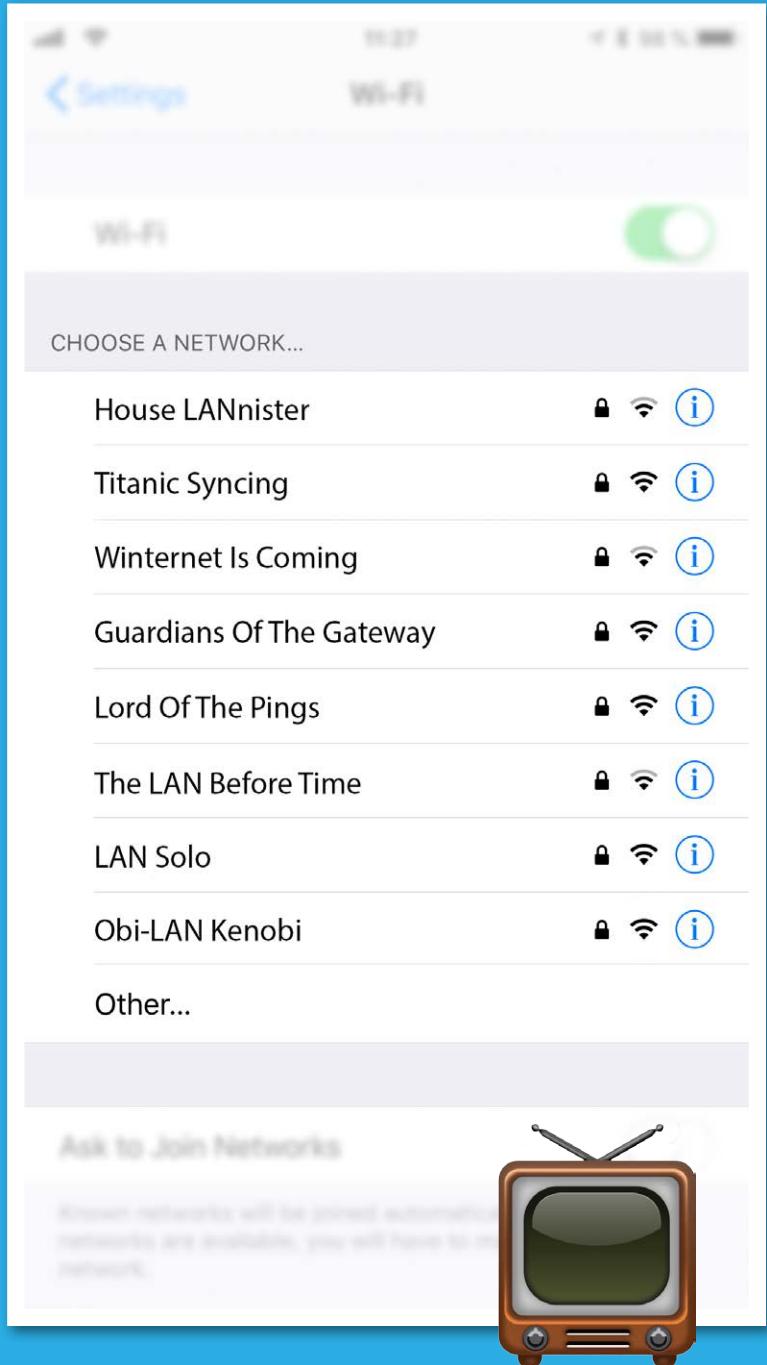
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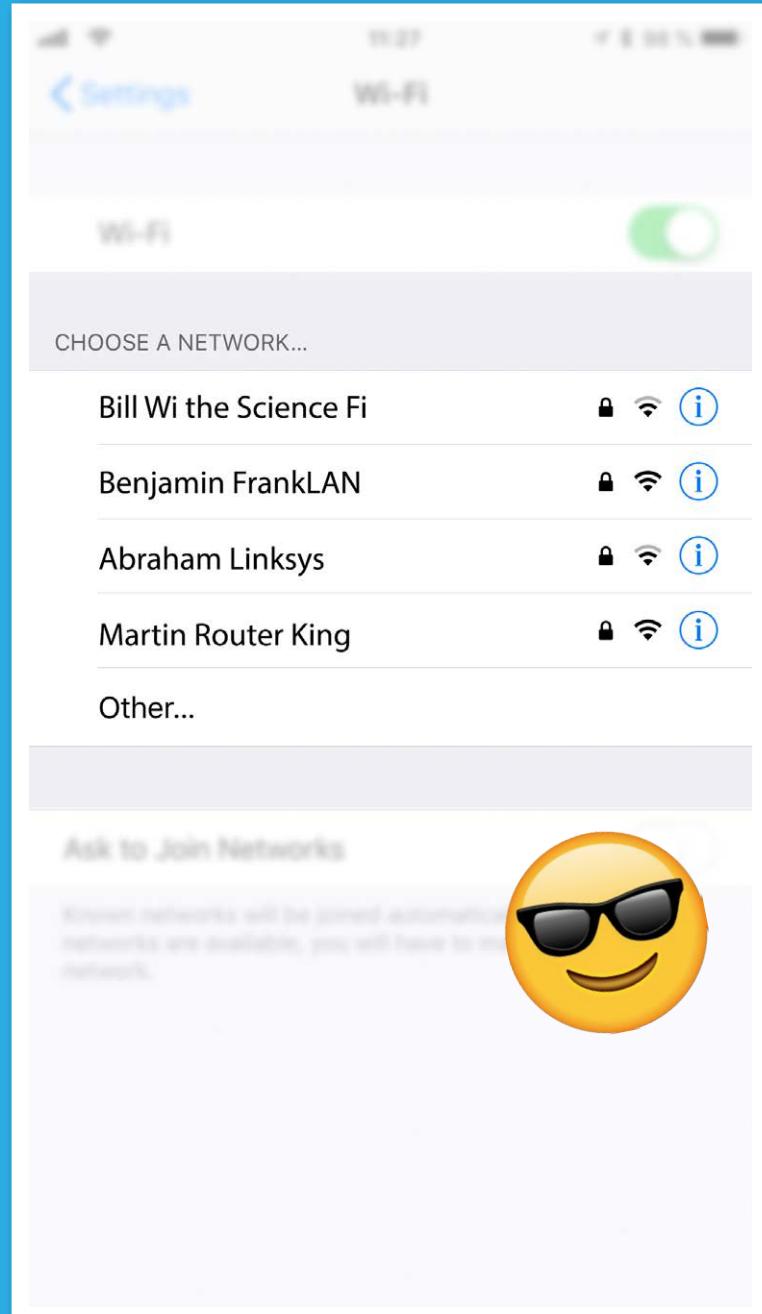
Music:



Movies and TV Series:



Famous Personalities:





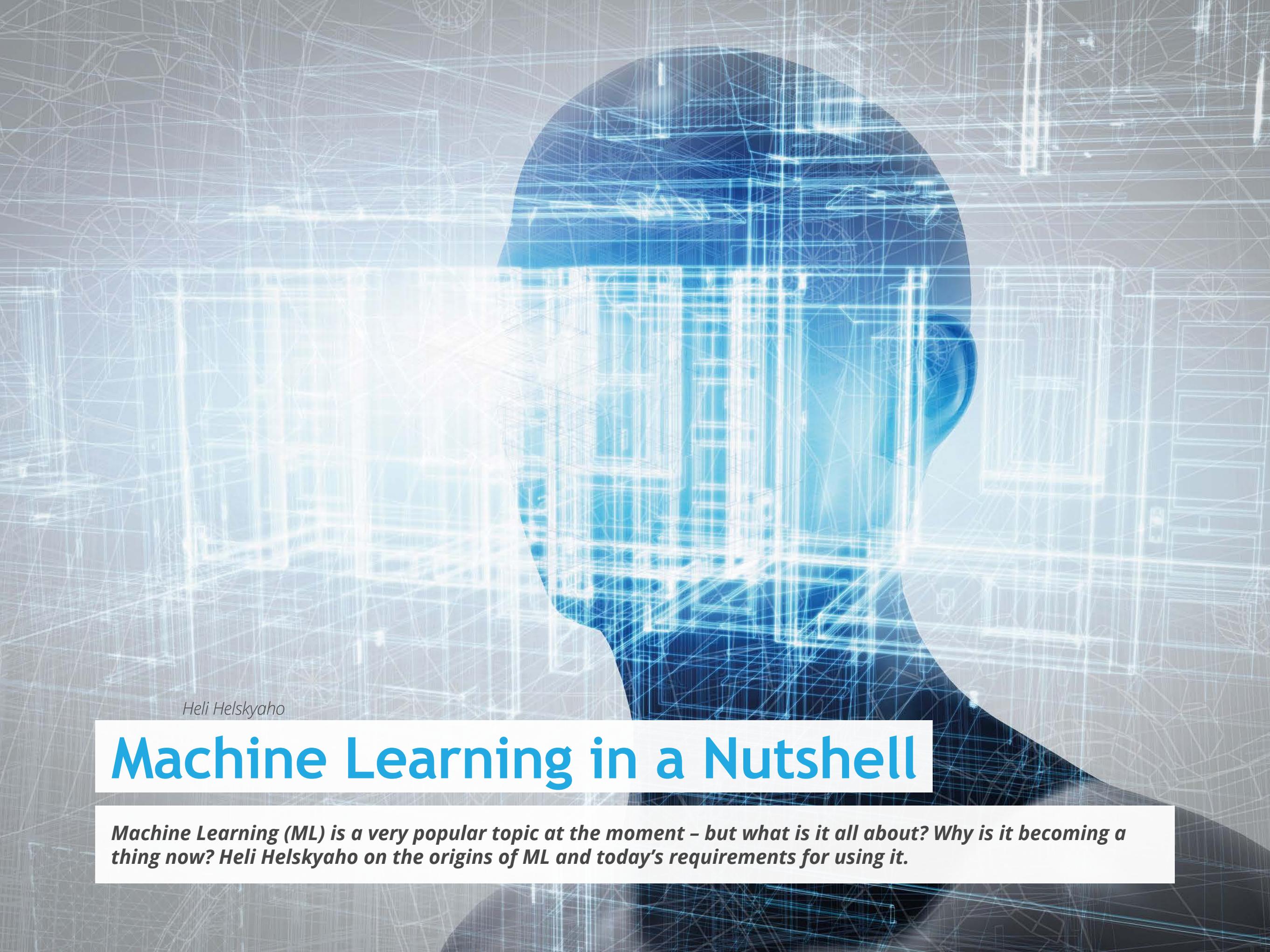
hadoop – The (Yellow) Elephant in the Room *Lisa Damerow*

The open-source software utility collection Apache Hadoop is a popular tool used by many people working in IT, even more so since the rise of Big Data. But where does its name come from, and why is its logo a yellow elephant? Learn more about Hadoop's origin.

The son of Hadoop's Co-Founder, Doug Cutting, is responsible for both the name and the logo. During his first attempts at speaking, he referred to his favorite stuffed animal, which was

a yellow elephant, as "Hadoop". "Being a guy in the software business, we're always looking for names", Cutting said in an interview¹. "I'd been saving it for the right time." Short, easy to spell and pronounce, not used elsewhere and not too serious nor technical, exactly what he was looking for. Even though outgrown by Cutting's son by now, the stuffed toy still exists and now lives in Cutting's sock drawer. Occasionally, Cutting brings it along to conferences or public appearances, where fans can pose with the namesake of their favorite software.

¹ <https://www.cnbc.com/id/100769719>



Heli Helskyaho

Machine Learning in a Nutshell

Machine Learning (ML) is a very popular topic at the moment – but what is it all about? Why is it becoming a thing now? Heli Helskyaho on the origins of ML and today's requirements for using it.

Machine Learning is a very important part of artificial intelligence. Already in 1959, Arthur Samuel described machine learning to be a “field of study that gives computers the ability to learn without being explicitly programmed”. In other words, it could be said that ML is a systematic study of algorithms and systems that improve their knowledge or their performance with experience, the experience being algorithms and data.

Why ML? Why Now?

Simply for two reasons: First of all, technology is finally ready for ML. Secondly, because of all the data available, we need ML to be able to understand the data and to make right decisions based on it. It all comes down to the big V's of Big Data:

-  **Volume:** There is more and more data
-  **Variety:** There are different data models and formats
-  **Velocity:** The loading is still in progress while data exploration is going on
-  **Veracity:** Not all data is reliable
-  **Value, Viability, Variability:** We do not know what we are looking for in the data
-  **Visualization:** The systems must support non-technical users as well (journalists, investors, politicians)

And with all of this having to be extremely efficient and fast, we have no other option but using machines as much as possible.

When Should We Use ML?

The first requirement for using ML is that we have enough data and the data is of good quality. This is needed to let the machine

make good predictions and to learn. Part of the data is used for finding the model, while the other part is used to prove that the model works. ML is most usable when the rules and equations are complex (image recognition) and/or constantly changing (fraud detection). Typical examples would be spam filters, log filters and alarms, data analytics, image or speech recognition, medical diagnosis, and robotics.

The process of using ML might start with defining the “Task”: the problem to be solved by ML. To solve the problem, we will need an Algorithm that produces the “Model”. A Model is the output of ML. There are different models, for example predictive models (“forecast what might happen in the future”), descriptive models (“what happened”), and prescriptive models that will be recommending one or more courses of action and showing the likely outcome of each decision.

A very important part of ML are features and finding the best set of features for the task. Features/dimensions are “individual measurable properties or characteristics of a phenomenon being observed”.¹ Deriving features (feature engineering, feature extraction) is one of the most important part of ML. It turns data into information that a machine learning algorithm can use.

ML in short:

- Use the right Features
 - with the right Algorithms
 - to build the right Models
 - that archive the right Tasks

¹ Bishop, Christopher (2006), *Pattern Recognition and Machine Learning*.

Unsupervised and Supervised Learning

There are two main methods or techniques for ML: unsupervised and supervised learning. Unsupervised learning is used when the data is unknown and unlabeled. For example, we have data we know nothing about and we want to learn if there are any hidden patterns or intrinsic structures. Supervised learning is used when we know the data. We train a model on known input and output data to predict future outputs for new input data.

Clustering is the most common method for unsupervised learning and used for exploratory data analysis to find hidden patterns or groupings in data. There are two typical clustering algorithms: hard and soft clustering. In hard clustering, each data point belongs to only one cluster while in soft clustering, each data point can belong to more than one cluster.

In supervised learning, there are two phases in the process: the training phase and the prediction phase. In both phases, the data must be pre-processed in order to have good quality data for processing. Typical predictive models for supervised learning are classification and regression. Classification models are trained to classify data into categories: an e-mail is genuine or spam, a tumor is small, medium size, or large, a person is creditworthy or not. On the other hand, regression is used to predict continuous responses, such as changes in temperature, forecasting stock prices, fluctuations in electricity demand, or failure prediction in hardware.

Continuous Improvement

After the best model with best features has been found and implemented to the application, you might need to improve the model. You might want to increase the accuracy and predictive power of the model, to increase the ability to recognize data from noise, to increase the performance, or to improve some other measures wanted. And of course, to be able to improve something you must understand what to improve and to be able to measure it.



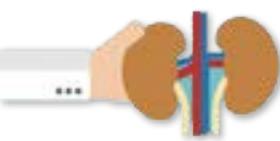
Heli Helskyaho

CEO for Miracle Finland Oy

Bioprinting: Where Do We Stand?

Sanela Lukavica

Whereas mankind has not achieved eternal life yet, the quest for a significant prolongation of our existence is undoubtedly on. Whether through genetic engineering or the combined effort of scientists and hackers in bodyhacking: The optimization of the human body serves both as a playing field for curious minds and a real chance in the field of medicine. 30 years ago, bioprinting weighed in its arguments on this debate for the first time, and heavily so. The 3D bioprinting market is estimated to reach USD 2.6 billion by 2024¹ and has long since left the earliest stages of its development. Even though no fully functional vital organs can be 3D printed yet, its potential is enormous. Reason enough to take a closer look at bioprinting: What has been accomplished so far and what can we expect from the market in the near and far future?



What Is Bioprinting Essentially?

Bioprinting is the perfect combination of nature and science: You set the right wheels in motion and nature takes its course. The process of bioprinting is clearly much more intricate, but the conjured mental image captures its essence.

What happens in the laboratory is comparable to regular 3D printing in that three-dimensional objects are being crafted. The significant difference lies in the liquid that is used for ink: 'Bio-ink' is a combination of cells and biocompatible polymers, thus very much 'alive'. First, a 3D model is prepared using a computer and then sent to the printer. The pre-tissue mixture is then being printed layer by layer, until a complex 3D object comes into being. What follows after bioprinting is the further growth and vascularization of the tissue. The procedure is highly complex: For the creation of a single blood cell, millions of cells need to be set in place.

What Has Been Achieved in Bioprinting so far?

There is still a clear line between the previous achievements of bioprinting and its grandest future aims. To this day, only mini formats of organs could be produced. The sheer complexity of our body structure is the main reason for that, as each cell of our organs needs to be provided with nutrients. A bioprinted organ still has no connection to the surrounding area, will take too long to develop these, and wither. Thus, specimens the original size of our organs cannot be used for experiments yet. However, even though the mini organs also die off, their

nutrient supply could be improved to such an extent that they last for a couple of months in many cases. Accordingly, the quickening of the pace of cell adaption is one of the most important aims of bioprinting scientists. They believe that within a time frame of 10 to 20 years, organs will ultimately be bioprinted for medical purposes.²

The future peak of bioprinting is considered to be the deployment of stem cells in the process. For millions of patients worldwide, the long wait for a donor organ would finally come to an end, and each patient would receive their tailor-made organ out of the printer. But this grand scheme of using stem cells and creating tissue or cartilage for individual patients isn't the only reason for the attention bioprinting receives. The efforts of one of the world-leading company in the field, Organovo from the US, could pay off much sooner when parts of organs can be bioprinted to prolong the life of patients who are on the waiting list for donor organs. Even today, bioprinting is already gaining momentum by its prolific use in oncology research. The artificial cancer tumors that are created in bioprinting laboratories are already being sold to hospitals, where immune cells are being added to the material and the reactions are being monitored for research.

Both ambulatory and stationary treatments in medicine could massively profit from a bioprinter scientists in Toronto have introduced to the public in May.³ Its bioink is a combination of fibrin and collagen, and can heal deep wounds that usually require transplantations. The whole procedure is supposed



¹ <https://www.grandviewresearch.com/press-release/global-3d-bioprinting-market>

² <https://www.ingenieur.de/technik/fachbereiche/medizin/bioprinting-ohr>

³ <https://www.welt.de/gesundheit/article176199524/Ein-Drucker-schliesst-Wunden-in-zwei-Minuten.html>

to take two minutes. The portable printer could become a real staple of medicine and shows the possibilities bioprinting already offers us today.

And last, but certainly not least, with the use of bioprinted tissue, animal testing could become a thing of the past.

Is It Settled, Then?

Apart from the fact that bioprinting still needs to earn its merits as a go-to solution for the production of donor organs, there are currently many other aspects to be taken into account before bioprinting can become a force to be reckoned with, especially regulatory wise. Legal guidelines for the market are essentially non-existent and will have to be set up once the time is ripe.

Another development that seems like a motif from a Science Fiction novel today could turn into reality – and a danger – once bioprinting enters the next stage: the creation of ‚superhumans‘. The potential for manipulation in this case would be enormous. Already the Italian startup company MHOX is planning on printing eyes with perfect sight and the ability to record their surroundings. The company plans to launch the product in the market until the beginning of 2027 at the latest.⁴

The consequences that could arise from such a man-made evolutionary jump could either be phenomenal or catastrophic. As enticing and important as bioprinting is, this is certainly reason enough for different kinds of social groups to partake in the debate and not leave it to scientists alone.

⁴ <https://www.profil.at/wissenschaft/bio-printing-organe-d-drucker-8273728>



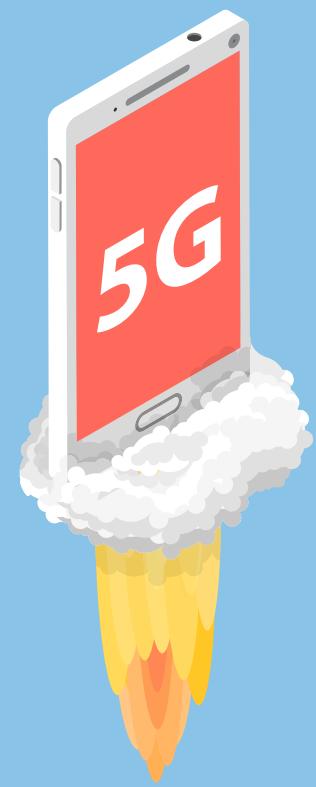
Number of the Quarter:

Marina Fischer



The fifth generation of incredibly fast wireless communication is just around the corner. In June, the 3GPP, which is the international group that oversees cellular standards, announced that the 5G standard is finally finished – now letting the industry do their work on building the hardware and infrastructure needed to work with 5G. It's only a matter of time now when 5G will hit the market, but several sources predict that it will be most likely in the early 2020s.

5G technology promises mobile data speeds of up to ten gigabits per second, making the download of HD movies or computer games a breeze. In addition, the new standard is expected to power a rise in Internet of Things technology, as it finally provides the infrastructure for huge amounts of data to be carried between billions of devices, as well as much more stable connections and a low latency.



¹<https://www.theverge.com/2017/2/24/14701430/5g-network-explained-mobile-data-cellular-millimeter-wave>



Florian Feicht

Preparing the IT Infrastructure for DevOps

Everybody is talking about DevOps nowadays. Particularly in the field of development, the topic is intensively debated. But operations also have many opportunities and challenges. However, there are also questions that must be answered: "Do we have to change the infrastructure?", "Do we even have to implement a completely new infrastructure?", "Which processes do we have to adjust?" and "Do we need new tools?"

Contrary to popular belief, DevOps is not a collection of tools. It is also not about a single approach or a single process. Nor is it about the developers taking over all operational tasks. It is rather the implementation of a new culture of cooperation between development and operations. On top of that, various tools and methods are used. The objective is to eliminate bottlenecks and to minimize the throughput times of the separate tasks as much as possible. Among other things, a consistent automation of tasks is helpful in this process. The article will get into more detail later on this topic. First, we focus on infrastructure: How do you determine if the existing infrastructure is suitable for DevOps?

Definition of Requirements

First of all, we have to clarify what DevOps exactly means. When we talk about DevOps, three important principles stand out:¹

- The Principle of Flow
- The Principle of Feedback
- The Principle of Continual Learning and Experimentation

All of this means that the work flow must be optimized and that lived constructive criticism must be introduced. Thereby, room for something new and experiments is created. What can infrastructure contribute to this? Do we have to adjust the known state-of-the-art criteria for an efficient environment? Until now, infrastructures have been evaluated based on these key performance indicators (KPI):

- Stability
- Fault tolerance
- Performance
- Security
- Compliance
- Accounting

When these aspects are confronted with the three principles, one thing becomes clear: The mentioned KPIs remain essential

¹ In accordance with "The DevOps Handbook" by John Willis et. al.

in the DevOps environment. Without the necessary stability, it is quite difficult to switch to a sophisticated work process. Instead, firefighting jobs will continue to dominate the daily routine of infrastructure teams. These unplanned tasks cause delayed projects and thus unhappiness in the departments.

Consequently, if you look closely, you have to focus more on some KPIs. The usage of self-services, for example, makes a central logging and security concept absolutely necessary. This makes sure that traceability of changes and adherence to security guidelines is guaranteed. Only then, the advantages of a DevOps environment can be maxed out. However, some other places need urgent changes to successfully introduce DevOps.

Infrastructure as Code

One of the important aspects is „Infrastructure as Code“. This means the representation of operational processes as code. The question arises if only developers are permitted to work on infrastructure from now on. But this is absolutely not the case. The expertise of administrators still is the main asset. However, some processes and tools from the development world are taken over. Version control for all scripts and configuration files are applied, for example. This makes sure that traceability is achieved at any time so that you can see who made changes to infrastructure or individual configurations for what reason.

Furthermore, coding guidelines should be declared in the operations team. This makes reusability of frequently required script parts easier. A defined naming convention for scripts also helps when you have to search for existing material. All of this is an essential requirement for the next important aspect.

Automation

Automation of routine tasks include, for example, provisioning of new servers, VMs, or containers. Network devices can also be managed



automatically. Other key aspects of automation are automatic installation and configuration of utilized software components. Automated tests are almost as important. This is quite common for development but is frequently ignored on operations side.

A very good knowledge of the environment is necessary for automatic provisioning. The easiest way to achieve this is consistent standardization. On top of that, a sophisticated capacity management is required on the one hand, and, on the other hand, a central logging and monitoring is also very important. Needless to say that this monitoring must include the security requirements.

Self-Services

Self-services are necessary to make the most of a high degree of automation. They help you to reduce throughput times of daily operational tasks significantly. An example is the creation of a schema in a database. In classic IT departments, even such a technically easy implemented ticket is passed through several teams. This easily leads to throughput times of several days. Such a process should be a thing of the past in a DevOps environment. A simple self-service with automatic and standardized provisioning of the workspace helps both the operations team and the developer. Oracle already supports administration in many respects, but individual tools can be implemented relatively easy. Oracle APEX, for example, makes it very easy to set up a self-service portal for automatic schema creation.

DevOps vs. ITIL

Another important aspect is the implemented processes. There is always the question if the implemented ITIL processes are still relevant or if they must be replaced. In an agile DevOps environment, the process overhead should obviously be minimized as much as possible. Existing processes are still important and required. But further development of these

processes is absolutely necessary. The change management, for example, becomes even more important.

To operate a stable infrastructure, it is absolutely necessary that all performed changes can be traced. This process must be automated as much as possible. The utilized automation tools should be capable of communicating with the change management system via API.

Configuration and release management also become even more important. It must be clear at any time which software component is used in which version to stay operational in an automated infrastructure. The usage of suitable tools is a basic requirement to be successful.

Security

The focus must also be on security when you prepare the infrastructure for DevOps. A good and close cooperation with the security department is essential. Only when the security department is already included at project start, things can be put on the right track. An implementation of security requirements afterwards is usually only possible when you leave out some aspects.

The monitoring must also be included comprehensively. A monitoring of the security guidelines, evaluation of audit files, and the resulting alerts are very important to meet the increasing number of requirements in terms of security and compliance.

Introduction of DevOps

Once the most important corner points for a successful DevOps infrastructure are known, planning and implementation are the next steps. Obviously, the wish is to have a switch for "DevOps=true". Unfortunately, this is not possible in a grown IT landscape. Existing structures, processes, and practices cannot be changed from one day to another.

Nevertheless, a consistent overall concept is necessary before you start in the DevOps world. This includes clear conception of which components of the environment have to undergo changes to meet the new and extended requirements. Subsequently, the selection of suitable tools is essential.

Implementation is done layer by layer to guarantee the necessary agility and flexibility. Only this leads to a controlled rollout and allows an adjustment of processes if necessary. *Figure 1* shows a possible architecture with necessary components.

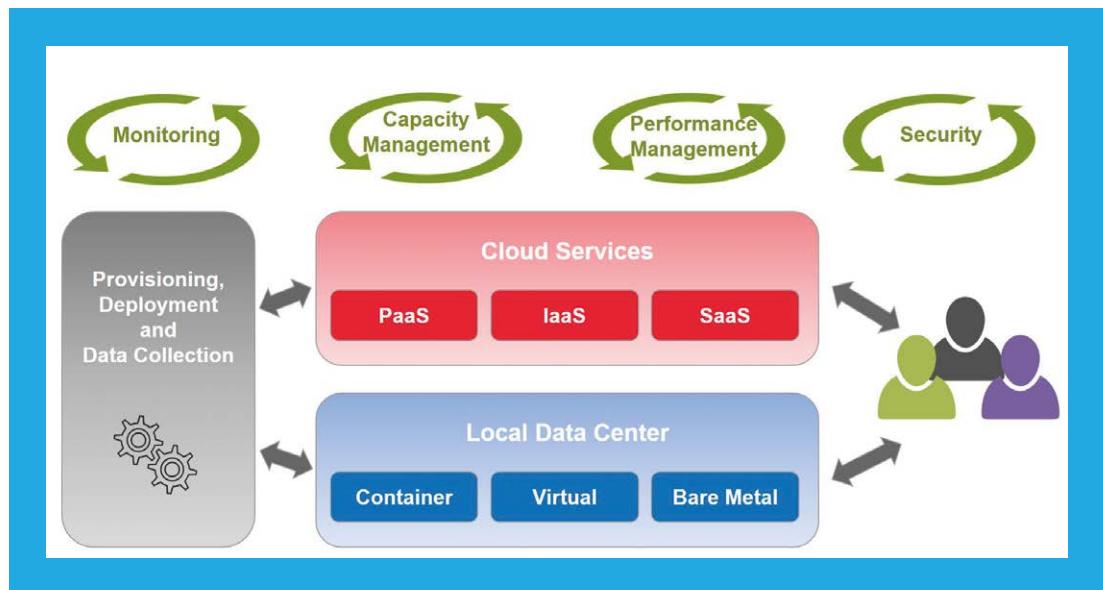


Figure 1: Architecture of a DevOps Infrastructure

It is not a problem when the rollout of components necessary for DevOps does not run perfectly right from the start. Principally, every IT project can be saved. The question is only effort – be it time or money that has to be invested. This principle is also valid for DevOps. If the planning of the overall concept is running in the wrong direction, this becomes apparent at the time of rollout of the individual layers. Due to high flexibility that is required in such projects, an adjustment is possible. This means that necessary optimizations to the concept can still be done at this stage. Even in case of a perfect start with ideal planning, there can still be need for adjustment during implementation.



Florian Feicht
Teamleader/Senior Consultant at Trivadis



Andrejs Vorobjovs

What's That Buzzing Noise?!

We all know the whirring (and slightly annoying) sound when a drone is hovering right above your head. But besides the amateur pilots, how are drones actually used professionally to make our lives easier and safer? Read on for an overview of the current state of the drone market.

To me, the modern database market is a boring bog. There is, of course, Oracle, which collects the most cream of technology, and everyone else. There are not even companies left that can give Oracle a kick and motivation to do something. The consequence of the complete lack of competition is that Oracle managed to release an autonomous database in the cloud, adding to it a teaspoon of new technologies.

A completely different thing is the drone market, where the giants collide right in front of our eyes: GoPro, Parrot, Yuneec and DJI are four of the most popular competitors. The first company is the world leader in the production of GoPro action cameras, the rest are producing drones for professional and amateur video filming, occupying about 70 percent of the market.

How Can Drones Help Us in Daily Life?

First of all, innovations such as drones are helping to drive digital transformation and project improvements in construction and infrastructure. For example, Apple will launch an army of drones to improve their „Maps“, while Amazon is working on delivering parcels with drones.

The usage of drones is very extensive. I myself participated in a pilot project where a drone was used to inspect trains. Here, the general use case is new inspection capabilities – particularly for trains, where regular inspections of their carriages, their joints, their transmission and wheels throughout the year have to be done. By using a drone, you can inspect more trains per day. It's much easier and faster to inspect the trains by using thermal cameras. And also it's much safer. So weekly measurements using drones can help providing an objective record. Special software allows you to perform analyses.

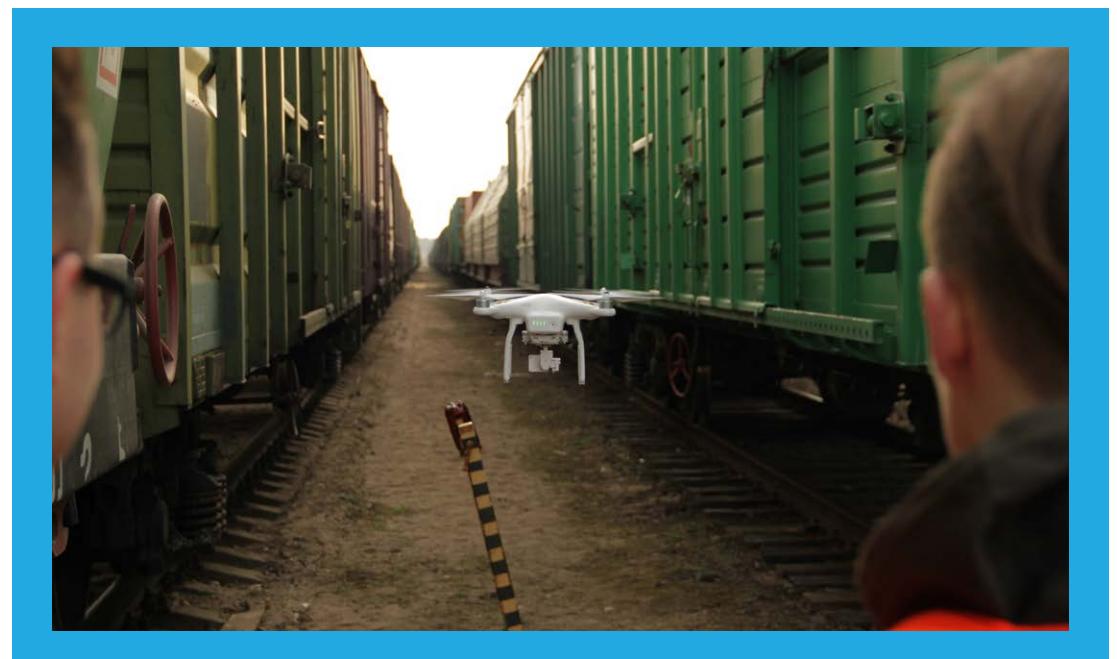
As I am writing the article, there is a thunderstorm outside and one tree has caught fire – which made me realize another

scenario where drones come in handy: Especially in areas that are difficult to access, like high buildings, ships, or places in the mountains, drones can be of great support to fire fighters. In the US, drones are for example already used to guide firefighters through burning buildings.

However, with the help of drones, illegal acts are also committed. In China, for example, with the help of drones, iPhones are reported to be smuggled from the area in Hong Kong where they are not taxed. Local smugglers annually cross them in thousands of copies over the border, selling in mainland China.

Limitations in the Use of Drones

Large-scale events in European countries are trying to limit the use of drones. In most European countries, it is necessary to register a drone weighing more than 250 grams, and the usage of a drone weighing more than 30 kilograms is prohibited. According to the company DJI, light drones account for about 30 percent of the market. Registration is needed to reduce



the potential threat to aviation, the risk of injury to others and interference in privacy. When registering the drone to the drone database base, governmental institutions ask for the name of the aircraft, serial number and its maximum take-off mass.

In Germany, for example, important restrictions apply to the flight itself: you cannot go to a height of more than 100 meters without permission. If the drone weighs more than 250 grams, you cannot fly in residential areas. And regardless of weight, if a drone can record video or audio, it is forbidden to fly over houses that are not your property. The same applies to flights in the immediate vicinity of police and rescue operations, motorways, meetings of people and airports.

Protection from Drones

To protect from drones, special complexes can be used. They are designed to suppress the communication channels used, which leads to the blocking of the control and navigation of the drone. Such complexes are used at large events with a crowd of people to prevent a terrorist attack.

Drones for Novice Pilots

For myself, I use a Syma X5UW drone, which I won in a lottery at one of the Oracle conferences. Because of its small weight of 118 grams, this drone does not need registration. It is a great toy for novice pilots. The optimally selected set of options allows a beginner to learn how to manage the basics of flying, but also to enjoy the process of filming.

What Will the Future Hold?

In the future, drone data will get more accurate and the software for processing this data will get more intelligent. In addition, drones will do some interesting automated clash detection. I think that models will become something like autonomous pets of people following them everywhere in sport activities or while traveling and will help at work with industrial needs.



Andrejs Vorobjovs

Senior DBA at Worldline Global



Jean-Jacques Camps

Psychic Reveals the Dangers of the Internet

Even if the newly enforced General Data Protection Regulation (GDPR) offers us European citizens and residents an enhanced protection of our personal data (i.e. "private life"), don't forget that we are often the first source of the data. More intrusive than what we would allow any police authority, we just relinquish the data, not even caring about the amount and the effect it might have in the future. Watch this thought-provoking video on what can happen with your personal data.

EOUC LEADER SUMMIT 2018: How Can User Groups Recruit New Cloud Members?

At the beginning of June, Oracle hosted the EOUC (European Oracle User Group Community) summit with EMEA community leaders at Zagreb. In total, 28 EMEA countries were present from MySQL, Java, and Oracle user groups. The theme this year was "Successfully growing with next generation (#NEXTGEN) solutions and memberships". Read on for a report about the event by Ann-Sofie Vikström Often and Andrejs Vorobjovs.



We were welcomed at the beautiful capital of Croatia, Zagreb, by Tom Schiersen as the Oracle liaison, Davor Rankovic, the Croatian Oracle User Group leader, and Branko Mihaljević, the Croatian Java User Group leader. The first day started to set the theme: How can user groups grow their membership base? And how can one get involved? As user groups, we need to change as Oracle is changing, and we are in general struggling with the membership base, a lower rate of conference attendees, and engagement for the new solutions in the cloud. Or we just do not know if there actually are users of cloud solutions. That is because the Software as a Service (SaaS) customers are often not present as user group members, and we do not see much of the other cloud service users, too. In EMEA, the organization of sales for smaller countries is often centralized in other countries, which is quite a challenge for effective communication with Oracle.

In our discussion, there were some good suggestions coming up:

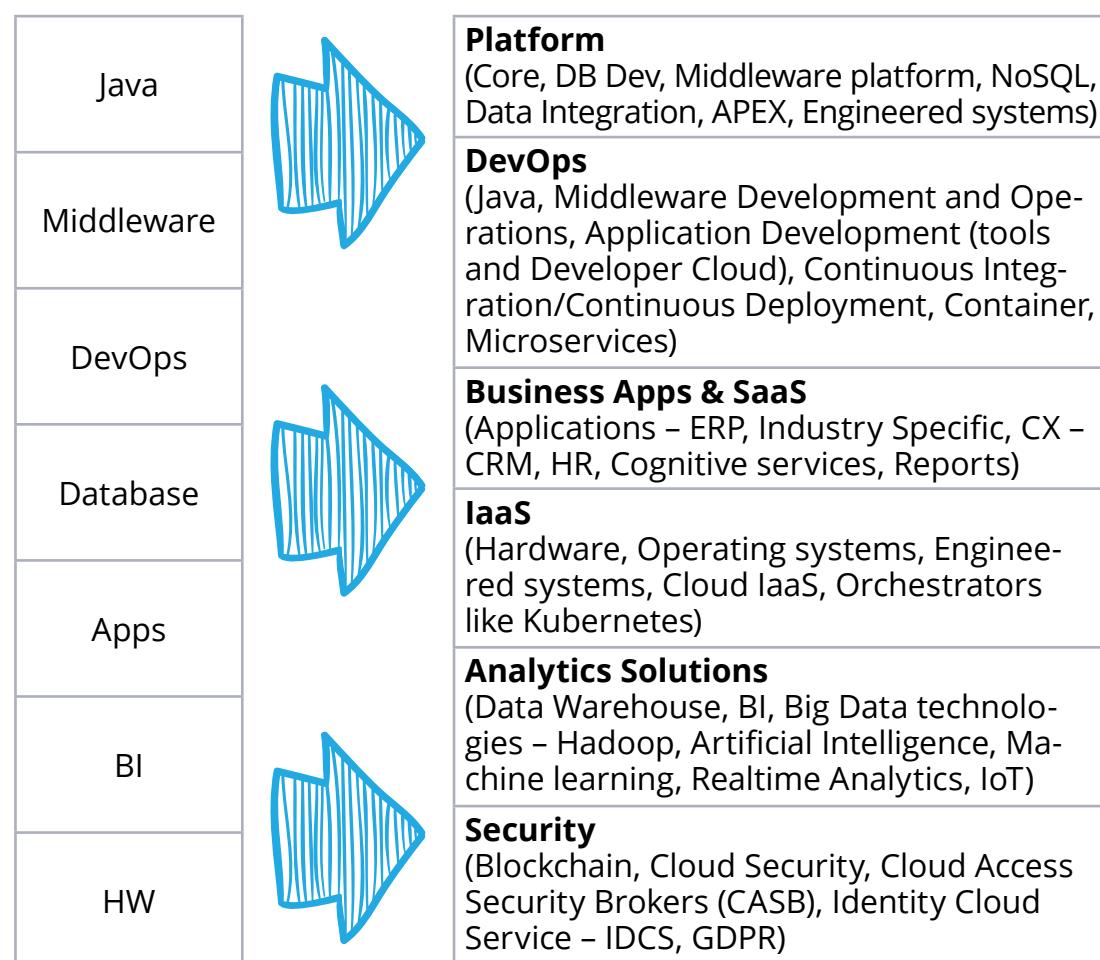
1. Ask for help from your Oracle office to market your user group when they communicate with their customers. If that is a bit challenging, contact your EMEA liaison.
2. Engage and try to motivate the community to start Special Interest groups (SIG) and support them accordingly.
3. The interest areas that can be seen often (Database, Database Development, Java, Middleware, BI etc.) need to have a re-brush, too. Try to make changes in accordance to the customer base in your country and together with the community.
4. Check out if Developer meetup programs are something for your community. Maybe the funding model will fit your initiatives. For information, please talk to your EMEA liaison.



- Check if the Oracle Academy could help you getting in touch with the younger generation. RoOUG (Romania) gave it a try after last year's introduction. Or take a look at DOAG (Germany) and their inspiring initiative #NextGen, which was also presented in Zagreb (you can read about it in [ORAWORLD #7](#)). Oracle Academy together with Rochester Institute of Technology (RIT) in Croatia presented their experience in working with real world projects through the whole value chain.

Transformation in Hungary

HOUG (Hungary) is currently transforming the areas of interest for their SIGs etc., going from a traditional pattern to a more flexible one where the topics for each group may change as Oracle changes. Laszlo Jagustin presented the transformation:





Oracle Academy and RoOUG (Romania)

Mirela Adelane provided us with an insight about their journey to engage with students in partnerships with Oracle Academy, and a lesson in never giving up after the first try.

In addition, we also had workshops with three teams on “How to grow and to engage user group membership”. We discussed three main questions:

1. How can user groups retain members and support their paths to the cloud?
2. How can user groups recruit new cloud members?
3. In a cloud world, how can user groups engage their members in events and Oracle programs?

At the end of our summit, we congratulated our Oracle EMEA liaison Tom Scheirs for the last meeting. Since Oracle is changing the team to support the user groups, Tom, who has made a big difference for many of the user groups in EMEA, has stepped up to have a leading role for Community Experience and Global initiatives. Bianca Grecu will be the new Oracle liaison and take over Tom's role as responsible for EMEA user groups. We thank Tom again, and say a big welcome to Bianca. You can read an interview with Bianca on [page 34](#).



Meet Bianca Grecu!

Please introduce yourself and tell us a bit about your background.

Hello! My name is Bianca Grecu and I am the Community Engagement Specialist for EMEA. I spent the past two years in the Oracle Customer References Team, working with customers across countries and industries to share their stories and connect them with other customers. That included engaging customers in activities and programs that amplified their successes and engaged them through the lifecycle. I am excited about applying this experience to the user group community in EMEA as new opportunities to work with user groups and their members emerge.

What do you like most about working with the various Oracle user groups in EMEA?

I like diversity in people's cultures and traditions. User groups and their members in EMEA represent a varied cross-section of users passionate about Oracle solutions and their careers. Being surrounded by such a dedicated community of people motivates me!

How do you see your role and the collaboration between Oracle and the Oracle user group community in EMEA?

My role is to work proactively with user groups to help them navigate the generational shift in IT we are all experiencing. This includes working closely with each group to understand their strategies, objectives and challenges as well as driving collaboration internally to support common goals. Maintaining strong collaboration with both user groups and Oracle teams is critical in effectively managing this dynamic environment.

What is the value you are hoping to deliver to the User Groups, and how?

The shift to the Cloud has created a host of opportunities for user groups and their members to engage in new ways that increase visibility, reach new audiences and expand social capital. My goal is to ensure all user groups are aware of these new opportunities, including how to engage in new programs, platforms and communities that can foster peer engagement, highlight user expertise and attract next generation members.

What do you expect from the User Groups?

Focus can lead to excellence. I consider transparency in communication to be a critical success factor in setting expectations that allow us to drive towards defined outcomes. We share the common interest of connecting Oracle users, ensuring they are successful and amplifying their experiences across the broader Oracle community.

How do you see the role of the Oracle user groups in EMEA today, and in the future?

User communities play a significant role in accelerating success and user groups are at the center. Oracle customers want to hear from their peers and celebrate their successes as they transform their businesses. This creates a tremendous opportunity for user groups and their members to expand their roles as the industry modernizes with Cloud. User groups will need to continue monitoring their engagement strategies as Cloud users have fundamentally different needs and expectations than on premise users. The future is bright and with strong collaboration we can jointly shape the future.



A Finn in Edinburgh

Heli Helskyaho

Heli Helskyaho has already attended the annual event organized by OUG Scotland many times. However, each time it is quite special. This year, the event was held in the green city of Edinburgh on June 21. Read on for a full recap of her highlights from 2018.

I arrived at the airport in the morning of June 20 to meet a good friend of mine, Peter Robson, who was there already waiting for me, and who was also going to speak at the conference. We took a bus to his house, which is located in a beautiful and peaceful area, only a ten to fifteen minute walk from the city center of Edinburgh. I spent the morning there, working and preparing my new presentation about real life use cases of machine learning – it had its world premier at OUG Scotland! Then Peter and his lovely wife Frances decided it's time to get some lunch and see some Edinburgh. As a Finn I am used to see water and beautiful nature, but to be honest,

even we do not have that much green in our city! Edinburgh is extremely beautiful with the canal and all the green areas in the heart of the city.

On the next morning, Peter and I decided we will take a nice walk to the conference venue. It was about a 30-minute walk along a beautiful canal shore. We arrived early to hear the welcome speech by John Thomas and the greeting speech by the new president of UKOUG, Martin Widlake. Then Caroline Apsey from Oracle gave a very interesting keynote on "Connecting the Supersonic Car to the Oracle Cloud".



After a short coffee break we were ready to start with six tracks: database, platform and services, APEX and development tools, BA/BI and EPM, cloud apps, and EBS apps tech. I attended Peter Robson's excellent presentation on regular expressions. My own presentations, "The basics of machine learning" and "Real life use cases for machine learning", were scheduled for the end of the day. Both sessions were well-attended and I had a lot of fun presenting, answering the questions and chatting with people about machine learning.

After my last session it was time for drinks and finger food and plenty of chatting. It was great to see many of my friends and to make new friends. It was a wonderful two days in Edinburgh. Thank you, Peter and Frances, for taking such good care of me and letting me stay with you! Thank you OUG Scotland for your hospitality and the opportunity to give two talks at your fabulous event! I'll be back





Sabine Grosdidier

Cloud and Artificial Intelligence

How to Manage Change in a Disruptive World

As every year, the "Journée Utilisateurs" as culmination of the francophone Oracle User Groups' activities was punctuated with exciting speeches, testimonies of enriching experiences and their exchange. The chosen topic of this year was "Cloud and Artificial Intelligence - How to manage change in a disruptive world".

The event took place on June 12, 2018 at the "Cercle National des Armées" in Paris. This prestigious location, in the heart of business quarters and big stores, has been hosting the Journée Utilisateurs since 2009. It is particularly appreciated by its participants due to its welcoming spaces and its art deco decoration typical for the cosmopolitan elegance and the French charm of Paris. Nearly 200 persons joined the event. Users of Oracle solutions, partners, Oracle employees, and the whole Oracle ecosystem gathered.

The morning was split up into three stages. First of all, Erwan Deveze, researcher and consultant in neuroscience, and author of "24h dans votre cerveau" (24h in your brain) and "Neuro-Boostez vos équipes" (Neuro-boost your teams) animated the neurons of the audience in an interactive conference led by Anicet Mbida on the subject "From the neurosciences to artificial intelligence".

After that, Jean-Emmanuel Granade (Crédit Agricole), Jean-Marc Hui Bon Hoa (Oracle) and the start-ups Weblib and DialOnce shared their opinions about the key factors regarding a successful collaboration between start-ups and major accounts. This win-win relationship was very much appreciated by the public.

In the framework of the event, the Clubs Utilisateurs announced the publication of a practical guide about GDPR compliance, initially in an electronic format. This document supports the contractual relations with the software companies, integrators and suppliers of SaaS services. It has been developed in collaboration with USF ('Utilisateurs SAP Francophones', francophone SAP Users) and DyncsClub ('Utilisateurs des Solutions Microsoft Dynamics', Users of Microsoft Dynamics solutions).

The target is to have this guide approved by CNIL¹ and to create a code of conduct for the same software suppliers. Beyond the French borders, this guide is intended to assist every European user within the framework of his contractual relations with his suppliers.

The matinee was followed by the awards ceremony of the "Trophées Oracle des Clubs Utilisateurs 2018". This ceremony, key moment of the Journée Utilisateurs, is the culmination of a long process of identifying projects and drafting application files. These files were then examined by a panel of representatives of the User Clubs, Oracle managers and independent professionals such as the DSI de l'Ecole Polytechnique or a representative of a start-up which collaborates with Oracle.

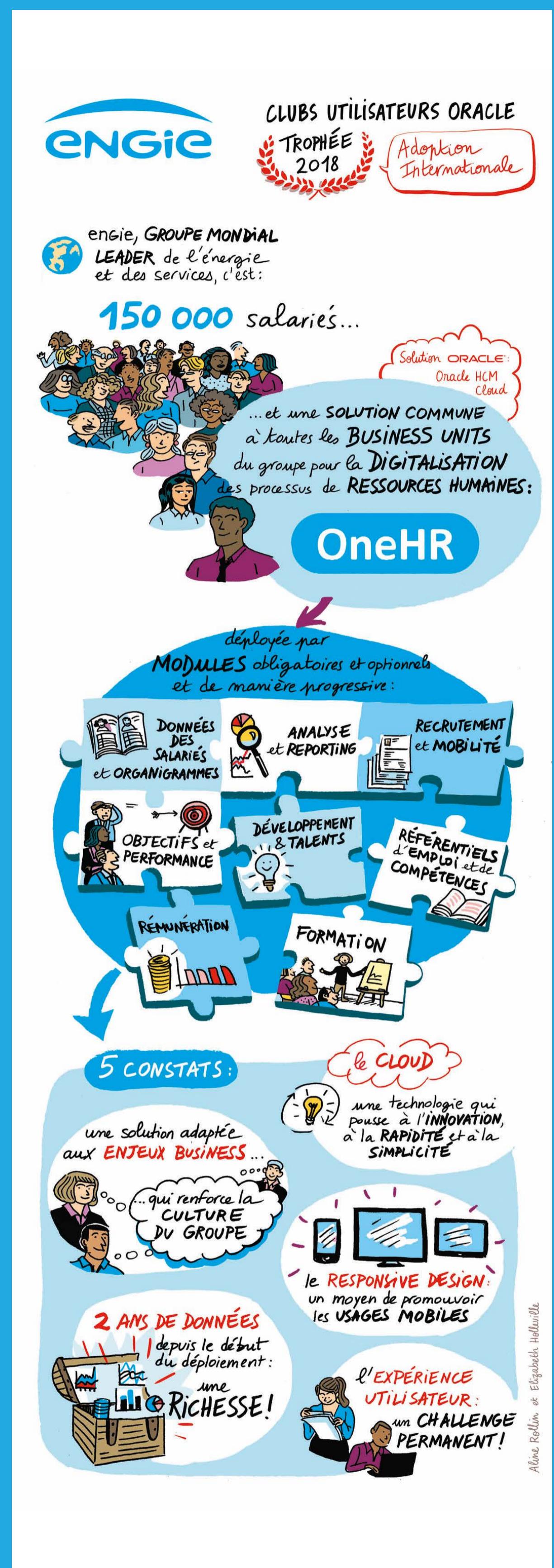
Testimonies and success stories have given form to this ceremony, which is made up of surprises and discoveries. The theme this year was : "IT, Business | The Cloud as transformer and facilitator of all the usages". The biggest winner has been the Engie group with its OneHR project, award winner of the "Trophée Adoption Internationale" (International Adoption Trophy) and of the "Trophée des Trophées" (Trophy of Trophies, Grand Prix). Thanks to this Grand Prix, two participants of Engie will take part in the Oracle OpenWorld 2018 (full pass, air travel and accommodation for five nights, complimentary).

The OneHR project will allow 153,000 employees of the group in 70 countries to benefit from the new SIRH in SaaS mode, so that all of the practices and procedures are harmonised worldwide. The GRH will therefore largely be dematerialised. The global rollout is conducted in waves, of which the latest lasted three years, i.e. over the full duration of the project. You can watch a video on the project here (video in French).

In addition, six other Trophées have been awarded to companies in the areas of cloud, customer relationship, logistics, transformation and more for their innovative projects. Their stories will be covered in future issues of ORAWORLD.

The stakeholders, participants, partners and Oracle employees then had the chance of talking and networking during the lunchtime cocktails.

Discover the photographs of this event by [clicking here](#).



¹ French Data Protection Authority, member of the G29

Ami Aharonovich

Ambassador's Corner

Dear user group leaders,

We hope that you and your user groups are both doing well and that you are all enjoying your summer vacations, wherever you are around the world.

In June, we've had the EOUC Leaders Summit in beautiful Zagreb. In this one and a half days event, we had about 40 user group leaders from 30 different user groups coming from 28 countries across EMEA. Together with Oracle executives, we had some interesting and fruitful meetings while working and discussing together various topics related to user groups and the Oracle ecosystem. Topics which were covered include Oracle's community strategy and the cloud management model for user groups, the Oracle startup cloud accelerator program, how to grow and engage user group membership, the role of the user group in the cloud space, Oracle Academy and many more. You can read more about the event on [page 30](#). During the meeting, the EMEA user group leaders have elected by acclamation that the current EOUC ambassador, Ami Aharonovich, will keep his position as the EOUC ambassador for the next two years. In addition, it was decided that the next EMEA Oracle user group community leaders meeting will be held during the DOAG conference in Nuremberg, on Monday, November 19.

On October 22, we are looking forward to seeing many of the Oracle user group community members at the upcoming Oracle OpenWorld event in San Francisco. This year, Oracle

Your Ambassadors:



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Heli Helskyaho
OUGF (Finland)
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has decided not to have the "User Group Sunday" program and instead you will be able to find the user group led seminars and sessions throughout the week, between Monday to Thursday, October 22 to October 25.

We are looking forward to seeing many of you in both Oracle OpenWorld in San Francisco and at the EOUC leaders meeting at DOAG conference in Nuremberg.

Yours,
Ami

Call for Papers

BGOUG Autumn Conference

Until July 31, 2018
Pravets, Bulgaria
website.bgoug.online/en/events/details/102.html

SOUG Day

Until August 13, 2018
Baden-Dättwil, Switzerland
events@soug.ch

JavaLand 2019

Until August 13, 2018
Brühl, Germany
javaland.eu/en



Events



POUG 2018

September 7-8, 2018
Sopot, Poland
info@poug.org

SOUG Day

September 18, 2018
Baden-Dättwil, Switzerland
events@soug.ch

Technical SPOUG Day

September 25, 2018
Madrid, Spain
blog-spoug.blogspot.com/p/technical-spoug-day.html

HrOUG 2018

October 16-19, 2018
Rovinj, Croatia
2018.hroug.hr

Oracle Openworld 2018

October 22-25, 2018
San Francisco, USA
www.oracle.com/openworld

BGOUG Autumn Conference

November 16-18, 2018
Pravets, Bulgaria
website.bgoug.online/en/events/details/102.html

DOAG 2018 Conference + Exhibition

November 20-23, 2018
Nuremberg, Germany
2018.doag.org/en/home

UKOUG Technology Conference & Exhibition 2018

December 3-5, 2018
Liverpool, UK
info@ukoug.org

UKOUG Applications Conference & Exhibition 2018

December 3-5, 2018
Liverpool, UK
info@ukoug.org

UKOUG JD Edwards Conference & Exhibition 2018

December 4-5, 2018
Liverpool, UK
info@ukoug.org

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