

# PORTFOLIO SIMULA

# 2018

Simula Research Laboratory conducts basic research in selected fields within scientific computing, software engineering, machine learning, communication systems and cryptography. Simula is organized as a limited company and is owned by the Ministry of Research and Education.

Simula Innovation (SI) is 100% owned by Simula Research Laboratory. SI organises technology transfer from research to business, and assists in commercialisation of research results through industrial partnerships and creation of spinouts. The goal of Simula Innovation is to provide a framework to support the creation of companies, including management of IPR, legal assistance, and assistance with grant proposals and attracting funding and investors.

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# GROWING COMPANIES

Ottar Hovind, Director of Simula Innovation  
Photo: Inger Karoline Frøberg Hagane



Welcome to a brief introduction to the companies in which Simula Innovation AS has ownership.

Over the past five years, Simula Innovation has consistently worked to build up a portfolio of promising companies with excellent teams from its research groups and the Simula Garage.

At the end of 2017 the portfolio consisted of 16 companies with 115 employees (see Figure 1, page 04). Combined revenue for the companies in 2017 is close to 100 MNOK. This is a 24 % increase in revenue from 2016.

Most of the 13 product companies have proven that they have a solution that is in demand by the market. A majority of the companies now face the challenge of scaling up the sales. For many of the companies the focus in the first months of 2018 have been hiring skilled persons in sales and marketing. We believe that this will be an essential factor in the transformation from being an early to a late stage company with significant revenue.

Over the last two years the companies have collectively attracted an external investment of approximately 40 MNOK. This figure is expected to increase in 2018 and 2019. We believe that external capital should be targeted at increasing revenues by speeding up sales, making the company ready for taking a substantial market share. The global market provides the companies

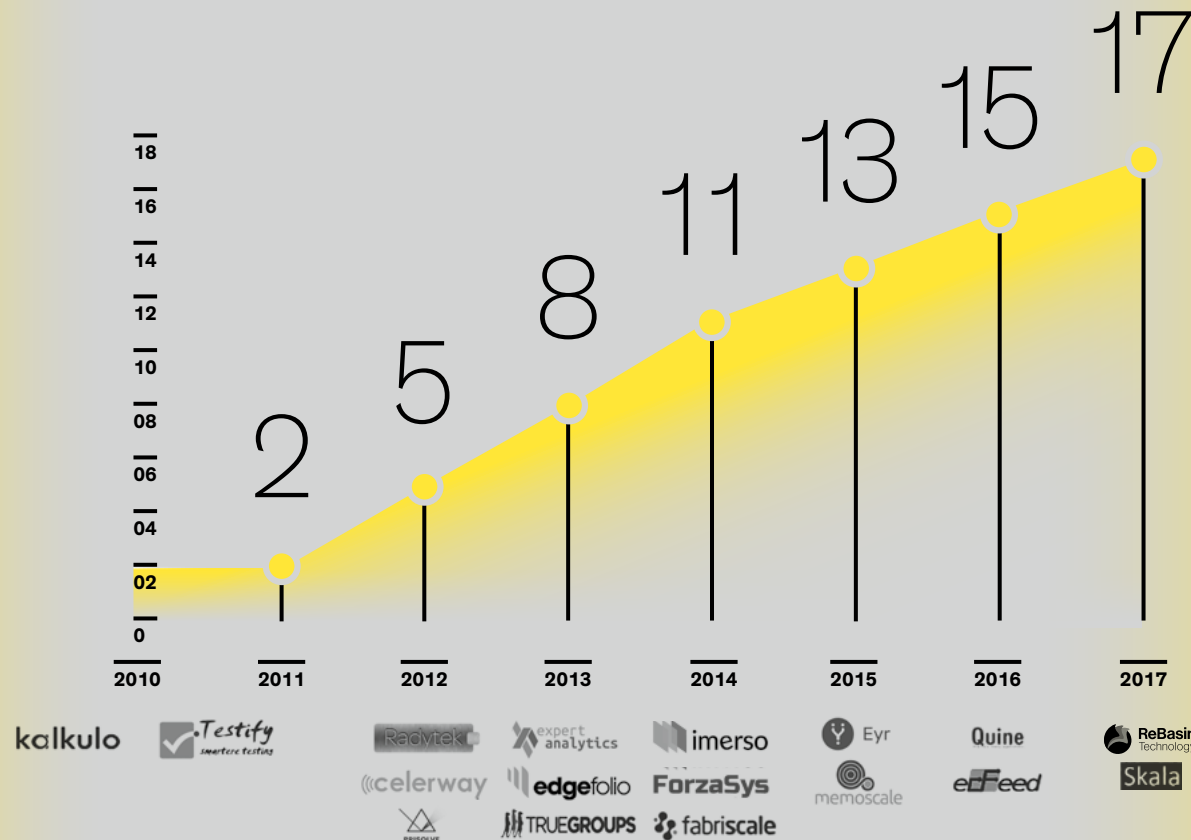
with almost unlimited opportunities in scaling up, given a good product and the capital to grow. However, globalization forces a more intense competition climate even in your home market. That's why it is critical to focus on rapid business growth, especially in the field of IT where the advancement in technology has been exceptionally fast over the last years (see Figure 2-3, page 05).

Three of the companies we have ownership in are in the field of consultancy. Kalkulo, Testify and Expert Analytics are state of the art consultancy companies, so if you need to test your critical system, or visualize different types of data or if you need advisory services within ICT, you should consider rendering their services.

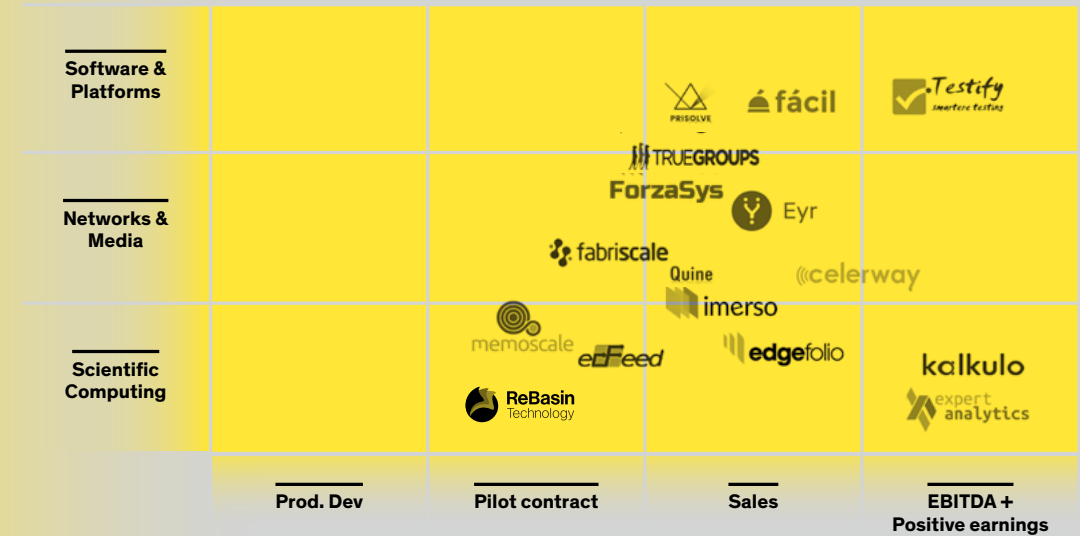
Kalkulo, Testify and Expert Analytics together have fifty employees and are contributing to Simula Innovation's investment in new business, based on their increasing revenues and profit margin.

# FACTS & FIGURES

## 1. NUMBER OF COMPANIES IN 2010-2017

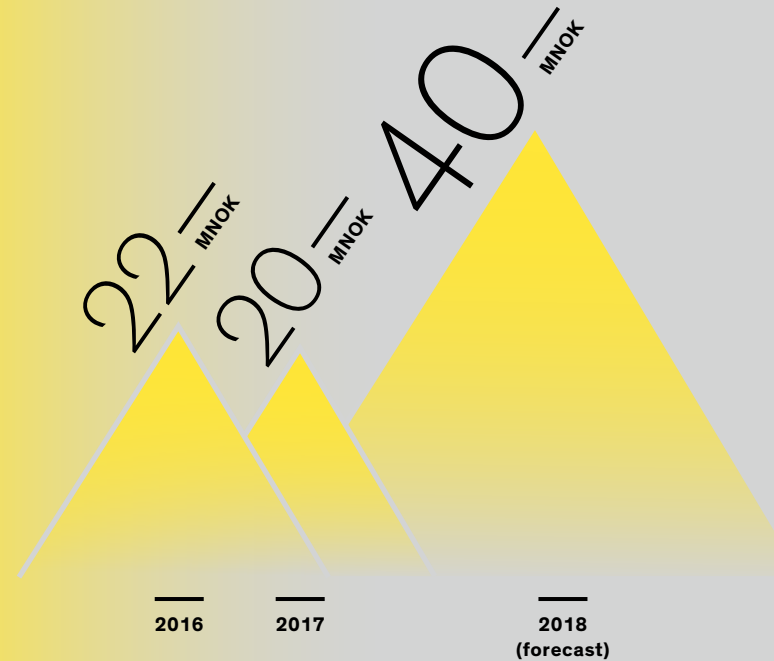


## 2. MATURITY STAGES



## 3. STRONG GROWTH OF PORTFOLIO IN 2017

External funding received by companies



All numbers as of 31.12.2017

- 115 employees in 17 Simula spin-offs
- Revenue for 2017 is approx. 100 MNOK
- Strong income growth compared with 2016 - around 20%
- Valuation of the portfolio is increasing, in line with external investment

# PRODUCT COMPANIES IN SIMULA'S PORTFOLIO

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<sup>08</sup> Celerway Communication AS   <sup>10</sup> Edgefolio UK LTD  
<sup>12</sup> Fabriscale Technologies AS   <sup>14</sup> Forzasys AS  
<sup>16</sup> Prisolve AS   <sup>18</sup> Imerso AS   <sup>20</sup> Truegroups AS  
<sup>22</sup> EYR Medical AS   <sup>24</sup> Quine AS   <sup>26</sup> Memoscale AS  
<sup>28</sup> ReBasin Technology AS   <sup>30</sup> FÁCIL AS

# CELERWAY COMMUNICATION AS

www.celerway.com



## Background and the team

Celerway was founded by Kristian Evensen, Audun Fosselie Hansen and Simula Innovation. The original motivation was the poor utilization of bandwidth and frequent instabilities often seen in mobile and broadband networks. The problem, as originally framed, was: Why should we accept poor network performance when we know that there is more than enough capacity in surrounding mobile and WiFi networks?

Celerway has an international team with a broad technical and commercial experience gained from international companies and research projects. The team has work experience from companies like Nokia, Microsoft, Qualcomm, Ericsson, Telenor, and TDC

## Our products and commercial proposition

The Celerway software platform provides unified management, customer support, WAN optimization, Multi-WAN, advanced failover, network monitoring maps, and SD-WAN for a wide range of devices and network types, from mobile handhelds to enterprise routers. The software platform makes advanced networking features available to new market segments by lowering the threshold for adoption and reducing cost.

Celerway routers monitor network state and the real throughput of all available network connections and filters out

temporarily fluctuating links. The network throughput model is used to make decisions about where and how traffic should flow for maximum stability and the best possible performance. Information from the model is also used to generate graphical representations of historical network events such as failures and poor link quality (see Figure 1).

Celerway is also collaborating with several factories in Asia in order to produce high-end Multi-WAN handhelds and routers in a cost-efficient way.

Celerway is currently benchmarking patented algorithms in android and iOS phones. If these are successful, the company will approach vendors in an attempt to license the software to them.

In the Mobile World Congress 2018, Celerway launched two new products: the first in the world pocket router with 2 LTE modems, and a proxy software that makes Multi-WAN usage completely seamless for users. The stand on the congress resulted in 50 leads, including 10 larger network operators.

Celerway differ from the most traditional router vendors in the way that it focusses

on software that can be run on many device types and is not bound to a specific hardware. As a result, Celerway has developed a seamless Multi-WAN in a more optimal and affordable way, reaching larger markets.

## Key business drivers

Our ambition is to become a global player in the networking industry by giving customers affordable access to advanced multi-WAN devices and software.

We started structured sales work with the recruitment of an experienced CCO in autumn 2017. We have already signed eight agreements with resellers/distributors, and we have received positive feedback from another fourteen in Scandinavia. During 2018 we plan to open a sales office in Poland, and will explore opportunities for entering into the market in Germany, Poland, France, UK, Spain and selected Asian countries.

From 2018 Celerway will focus on recruiting large resellers, and be selected as main supplier to large international networks operators.

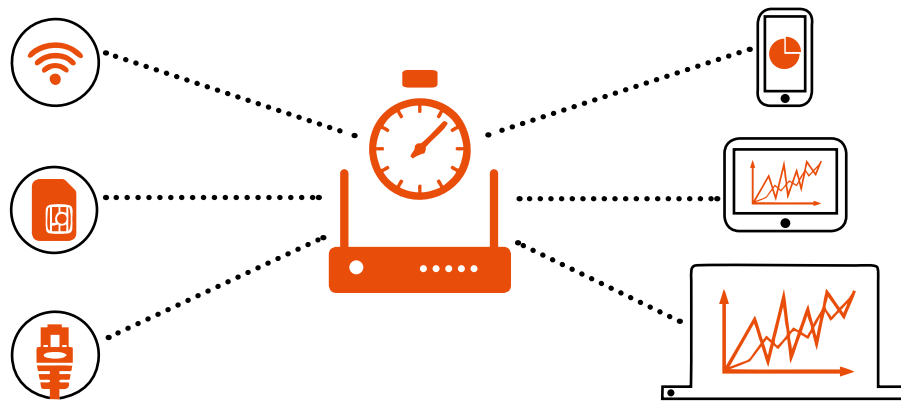


Figure 1. Intelligent real-time network monitoring

## ANNUAL REVENUE

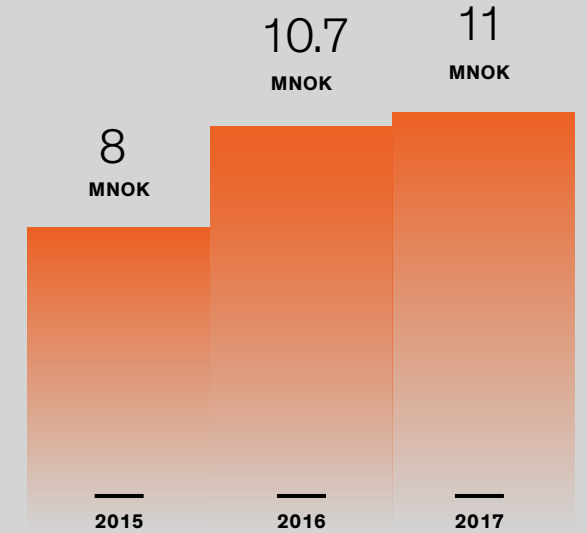
## QUICK FACTS

2012 **Founded**

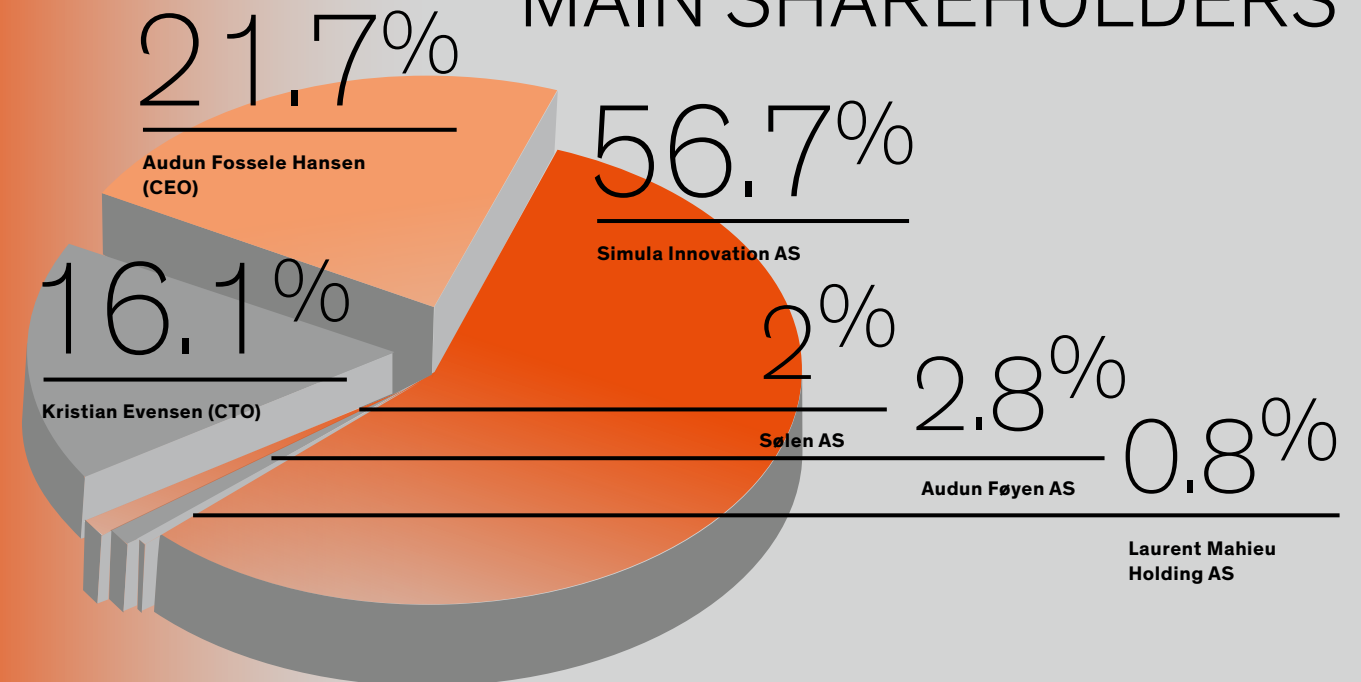
AUDUN FOSSELIE HANSEN **CEO**

13 **Employees**

TELCO **Industry**



## MAIN SHAREHOLDERS



# EDGEFOLIO UK LIMITED

www.edgefolio.com



## Background

Edgefolio is a platform connecting Hedge Funds (HF), Managers and Investors – in a transparent, secure and compliant manner – offering tools for the screening, analytics and connections part of the investment process. The goal is to capture the entire investment process, from discovery to post-investment monitoring.

## Commercial proposition

Edgefolio bridges the gap between investors who lack access to high quality, standardized data, and Hedge Funds (HF) who lack the top brand name power to access institutional capital.

The value proposition to investors is a dedicated platform to screen, analyze and compare Hedge Funds, enabling a data-driven process and a smoother and more targeted workflow.

The value proposition for HF Managers is a scalable investor relations platform with secure and compliant handling of confidential information; access to peer comparisons, insightful data and analytics which helps achieve efficiency in marketing and capital raising.

The Edgefolio platform is a single marketplace allowing investors and HF Managers to interact in a secure and private manner, in an industry where the information-flow is highly fragmented with numerous third party marketers and intermediaries.

The number of funds available on the platform is an important metric – Edgefolio focuses on increasing numbers and quality of the data.

Investors are used to paying for access to databases, and are charged a monthly (recurring) fee for access. HF Managers would pay to gain access to premium content.

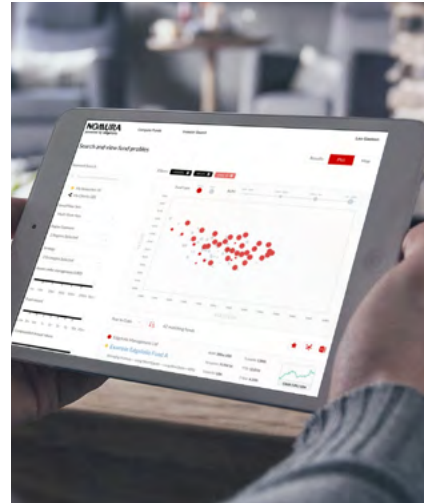
The company offers following products:

- ResearchEdge is a research and analysis tool that has the same interface available on the marketplace for Investors, but accessible on a private instance in which the client can import any fund and benchmarks data.
- Fundportal is taking your Manager profile from Edgefolio branding it with your own logo and colours, and plugging it into your website behind login. This becomes your private online investor relations portal. Solves a range of compliance issues with sharing fund information by making it digital and tracked.
- Prime Business Application is a modified version of the investor app to provide better service for their clients through digitized capital introductions, whilst bolstering their PB sales.
- Whitelabel. Our entire technology stack is deployed as a storefront for institutions who are keen to showcase a large volume of products to prospective clients

## Key business drivers

There is currently limited competition in the HF-asset class from digital platforms simplifying and enriching the capital allocation part of the value chain. Edgefolio is therefore aiming to be a “first mover” in the HF industry.

Edgefolio is aiming for “disintermediation” of existing analogue but special-



**Thomas Castri, Deputy Chief Investment Officer in Thalia SA states that:**  
"ResearchEdge is one of those tools where you go, 'why hasn't anyone thought of doing this before?' It is an elegant and light application that has helped us move away from a clunky desktop based workflow."

ized intermediaries, with a strong grip on relationships, processes and investors.

The value proposition of the initial market entry is based on an exceptional data-set, offering the best tools for the screening, analytics and connections part of the investment process. Edgefolio will expand the current universe of fund-data available on the platform as this is a key competitive parameter.

Edgefolio is attempting to change from being a company that builds products, to a company that sells products. We have realized that whilst our flagship product (the online marketplace for Hedge Funds) continues to grow and get us attention, the revenue generating products are actually enhancements or customisations of this technology for various customer types.

# ANNUAL REVENUE

## QUICK FACTS

2013 **Founded**

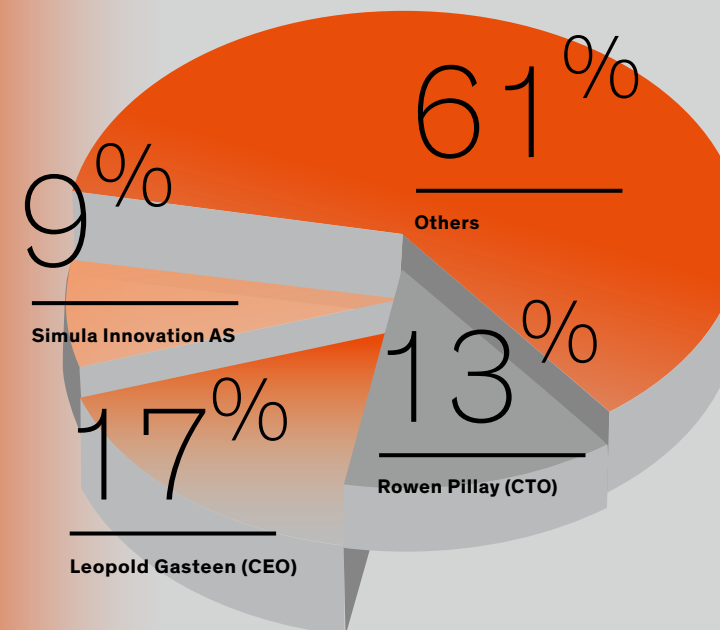
**ROWEN PILLAY** **CEO**

7 **Employees**

**SOFTWARE** **Industry**



## MAIN SHAREHOLDERS



# FABRISCALE TECHNOLOGIES AS

www.fabriscale.com



## Background and the team

Dr. Sven-Arne Reinemo, co-founder and CEO, has a passion for high performance networking, routing algorithms, fault-tolerance, and monitoring systems. He believes in simplicity and started Fabriscale because he wants to make fabric management easy.

Professor Tor Skeie, co-founder and CTO, has an extensive research background in routing algorithms, topologies and Industrial Ethernet. He started Fabriscale because he believes the time has come to revolutionize fabric and data center management.

Dr. Haakon Bryhni, investor and product manager, has a research background in cluster networks, operating systems and performance evaluation. He joined Fabriscale because he believes in smarter software for interconnecting computers.

Our management team has 15 years of experience designing centrally controlled networks delivering break-through performance, through their research at Simula Research Laboratory and work at Sun Microsystems. In addition to management, the team consists of six senior software engineers (two of them hold a PhD) and a VP of sales.

## Commercial proposition

Fabriscale aims to become a premier supplier of fabric management software for data centers and HPC facilities, for both the InfiniBand and the Ethernet architectures. Fabriscale's solutions can reduce network downtime, increase resource utilization, and simplify system administration.

Fabriscale Hawk-eye is a monitoring system that integrates with Wingman and third party workload managers (Slurm, Torque, Moab etc.) to provide user friendly system monitoring. Hawk-eye lets you drill down into statistics and key metrics, it provides automatic alerts for system anomalies and it helps you visualise your topology.

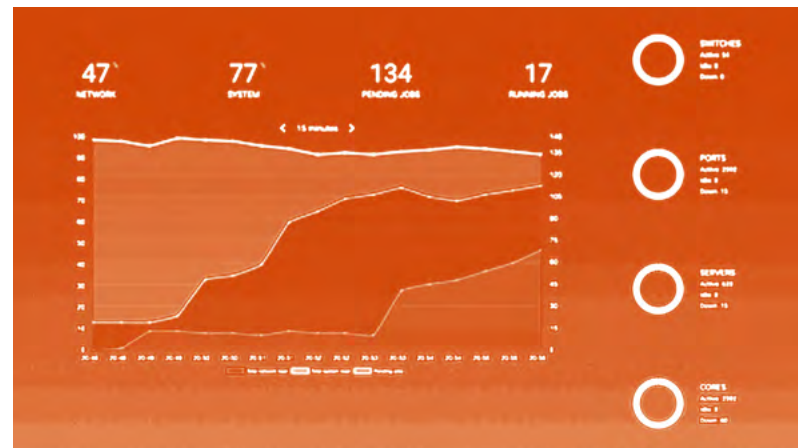
## Key business drivers

Fabriscale's mission is to increase data center performance (production capacity), to eliminate costly data center (application) downtime, and to ease fabric and data center management.

This means that the data center owners can run more jobs on their systems (per time unit), with the potential of increasing their revenue accordingly, and to offer more reliable services (at a higher price). In this way, Fabriscale will provide both substantial economic and environmental gains to our customers, contributing to a low-carbon climate resilient future.

Fabriscale's InfiniBand and Ethernet products target the software-defined networking market, which is expected to grow from the current USD 10 billion to USD 20 billion in 2020. Potential partners for Fabriscale in this market are HPE, IBM, Bull, Dell EMC, Inspur, Sugon, Oracle, Mellanox, and T-Systems, as well as smaller actors that have built their core business around InfiniBand and HPC, such as Cray, R-Systems Inc., Megware, System Fabric Works, and ClusterVision. Fabriscale has established a partnership with System Fabric Works in the US and are working closely with major actors in the US and in China for establishing new partnerships.

Figure 1. Fabriscale Hawk-eye leads to faster error recovery, less strain on systeoperators and reduced downtime.



# ANNUAL REVENUE

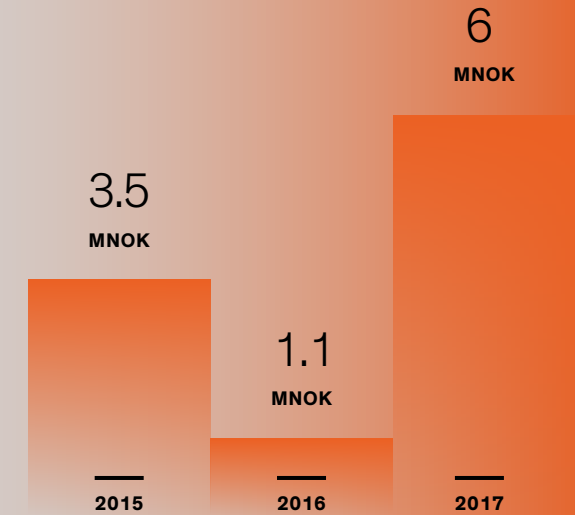
## QUICK FACTS

2014 **Founded**

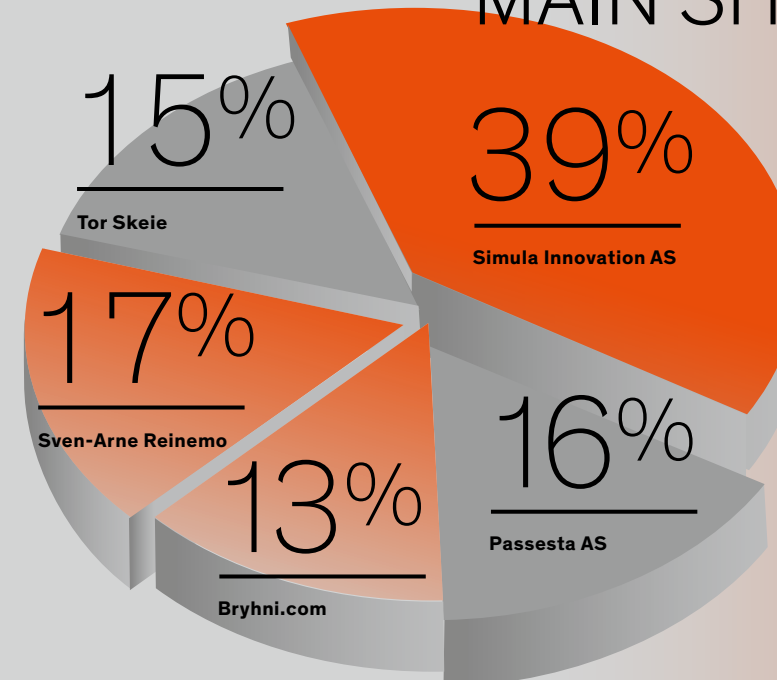
SVEN-ARNE REINEMO **CEO**

9 **Employees**

SOFTWARE **Industry**



## MAIN SHAREHOLDERS



# FORZASYS AS

www.forzsys.com

## ForzaSys

### Background and the team

ForzaSys was spun out from Simula Research Laboratory in August 2014 in collaboration with The Arctic University of Norway. For over a decade, we have researched large-scale multimedia systems in close collaboration with international companies such as Microsoft. These experiences and insights are fundamental for the novel solutions provided by ForzaSys.

With a cutting edge skillset in the fields of Video Streaming Technology, Distributed Systems and Networks and Machine Learning and Artificial Intelligence, ForzaSys provides the solutions of tomorrow's video streaming and analysis.

### Commercial proposition

ForzaSys AS is a game-changer; the main product "Forzify" is the 'Sportify' of sport videos, providing intelligent search methods, recommendations and social



interactions. Additional key features include live streaming of matches with live event generation and utilization of the currently underused «post-match» media rights – enabling an enhanced social media experience for the users.

Forzify™ is a complete live and on-demand video management system supporting OTT streaming. It is a cross-platform solution with backend servers running either in the cloud or on in-house machines. In addition to traditional streaming and video delivery, Forzify enables the users to

- see highlights and summaries of videos
- share and discuss sport events as video playlists
- create own events
- get recommendations from friends
- collect and redistribute favourite clips in a social experience. Thus, search for your favourite happenings, see compositions made by friends, and let the system recommend the most played and "liked" events from the previous week - in the order you want.

### What is Forzify

Sport leagues and clubs need to generate more revenues to offset rising costs, partially by monetizing the currently poorly exploited part of their fan base.

Multi-platform, social media is seen as an engine driving interaction, hype and interest. Ongoing technology innovation and expansion across multiple platforms will be used to maximize engagement and place the viewer 'inside' the sport.

Content owners face a dual challenge of an increasing need to protect content whilst making money on it. In an increasingly digital world, a major challenge for rights holders is trying to retain control over how, where and by whom sports content is consumed, so that this content can be monetized. ForzaSys has in 2018 released a new GDPR-compliant version of *pmSys*

- a performance monitoring system for athletes. The system monitors athletes' training load, general wellness and injuries through a subjective questionnaire submitted through an app on the mobile phone. In short, an app running on both iOS and Android devices enable athletes to easily report their data, and they may view their own performance over time.

Additionally, there is a trainer web portal where the trainers may visualise the team and/or individual player data, and the system reports basic trends based on the data.

### Key business drivers

ForzaSys provides a complete live and on-demand video software system from tagging and event generation to end device consumption.

The objective is to obtain first movers' advantage both in sports clubs and broadcasters segments.

The business model is primarily subscription based, but the utilization of user metadata enables sophisticated and targeted advertisement which could provide a significant additional income source.

Since 2017, ForzaSys has been providing both live and on-demand content to the leagues Allsvenskan, Superettan and Eliteserien.

From 2018, the OBOS league and København FC are using the ForzaSys video software.

*pmSys* is currently used by several soccer teams such as the National Team, Molde FK, Tromsø IL, Sarpsborg 08 and others.

## ANNUAL REVENUE

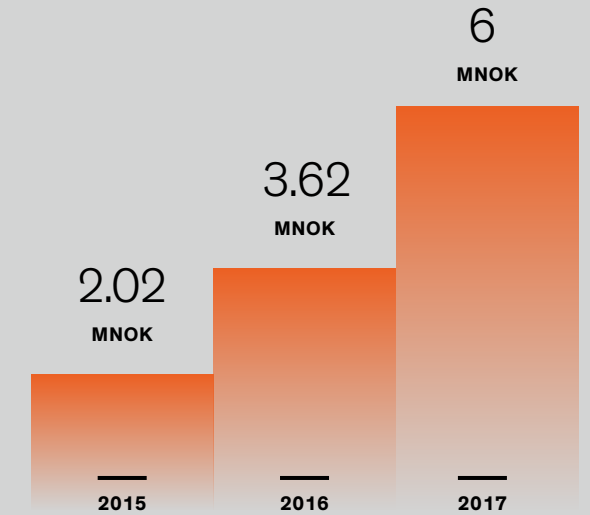
## QUICK FACTS

2014 **Founded**

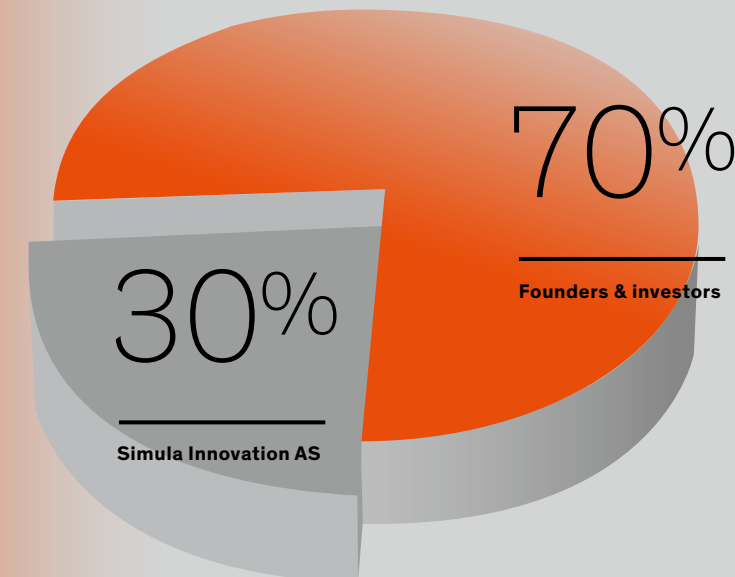
PÅL HALVORSEN **CEO**

5 **Employees**

SOFTWARE **Industry**



## MAIN SHAREHOLDERS



# PRISOLVE AS

www.prisolve.no



## Background

Prisolve has developed Prisolve, which is a business intelligence system for SMEs.

## Commercial proposition

Currently SMEs use a lot of time and resources to analyze business critical data manually, often with Excel. SMEs need critical information live and spend too much time compiling reports in Excel.

Prisolve is developed as a set of tools facilitating intuitive and effective reporting from the accountant to the client, automating the process and saving time and money for the companies. This business intelligence tool is developed for self-service analysis; bespoke reports are made on demand for clients giving large time-saving gains in the production of valuable decision-making reports. Prisolve connects to leading online accounting systems and transfers the latest data seamlessly to the user.

The key competitive edge is easy integration with existing accounting software as well as competitive pricing for the SME segment.

A scalable business model based on a "white-label" distribution through partners such as PwC and accounting agencies, provides a way to scale the business internationally through partners.

## Key business drivers

- The software is able to connect to the major well established online accounting software packages.
- Clients have easy access to reports and analyses using current business information, making the decision process easier and faster.
- Bespoke reports are made on demand for clients giving large time saving gains in the production of valuable decision making reports.
- Scalable business model through integration and partnerships.
- Combination of direct sales, and a white-label distribution through partners, such as PwC, and other accounting agencies. Resellers are motivated by a 30% commission.
- Plans to roll out to major players in the US and UK – which provides real scalability. First reseller in the US with 500 customers in the process of being signed.

- Major step: acquisition of a customer in the US, which is a proof of concept. They are already using it, paying 650 USD per month with 60 customers signed up of a total of 500 potential ones.
- Market entry costs to UK and US markets by building API's against market leaders Sage and Xero would be marginal.
- Recurring revenues are currently 60 000 NOK – sustaining the company in the near term and no further funding is required.

**“Prisolve gives us an overview of the company's economy in an easy and fast way. Complicated calculations that were previously done manually are now done by Prisolve, which gives us significant savings”**

*Bo Anders Ekberg CEO  
Asker Ventilasjon AS*



The Prisolve team

# ANNUAL REVENUE

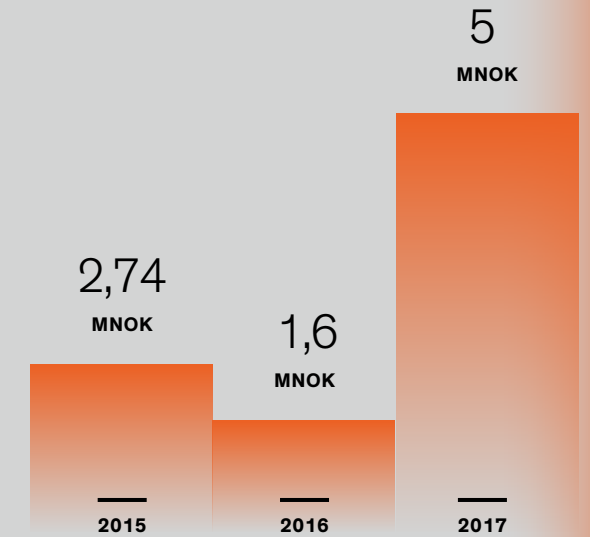
## QUICK FACTS

2012 Founded

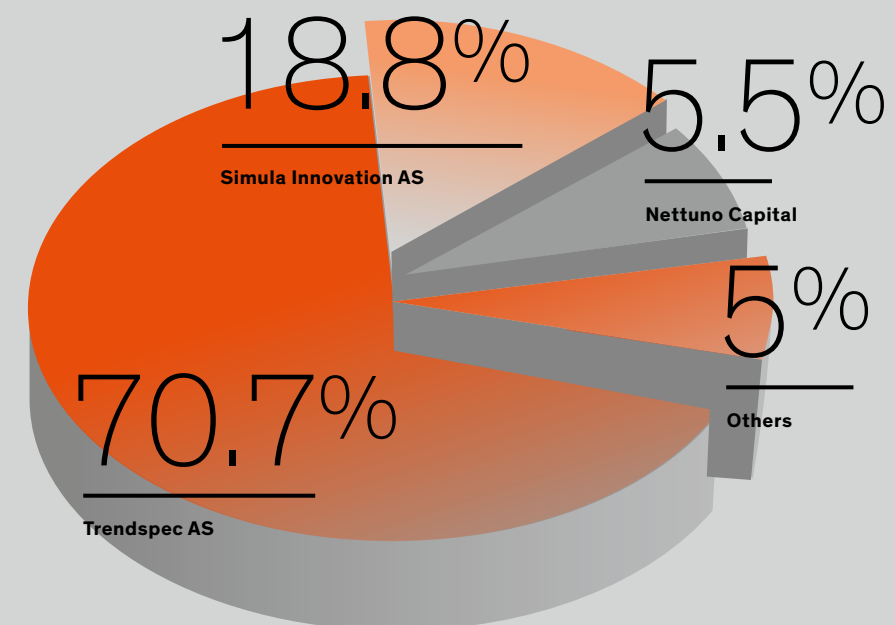
STEPHEN COLE CEO

5 Employees

FINANCIAL SOFTWARE Industry



## MAIN SHAREHOLDERS



# IMERSON AS

www.imerso.com



## Background

Imerso targets the construction industry with the first platform providing empirical documentation of field-work and early detection of mistakes and delays.

## Commercial proposition

Imerso's platform creates intelligent Digital Twins of any job-site, automatically detecting potential delays and out-of-tolerance work. This allows team leaders to react in minutes instead of months, providing a vast benefit over traditional manual "Spot-Check" inspection and documentation methods.

A successful pilot project was carried out with Statsbygg in 2016, where the concept was proved. The company has already passed the MVP stage, but still needs some development on the front end (user account management, UI/UX, etc.), alongside the integration of new advanced features resulting from its MNOK 40 R&D project sponsored by the Norwegian Research Council.

This is meant to be resolved in the coming months, as the team expands its engineering capacity.

Imerso already works with several of the largest players in the industry such as Statsbygg, Entra, Multiconsult, Rambøll, Veidekk, and its product is used in the largest projects in Norway today. Imerso enables better documentation of work and As-Built status, better coordination and communication across teams, and saves hundreds of millions in mitigated costs, delays, and unnecessary travel.

Erik Antonsen, Statsbygg Project Director, states that: **"Imerso saves us a lot of trips to the construction site, saving us time, money, and not least the environment. And we have full control over the project all the way".**

The platform is compatible with any source of 3D data, while Imerso also offers its entry-level scanning application for mobile, so that volumetric documentation can be created easily and affordably in any type of building project.

The company has been commercializing its product since fall 2017, counting with a current run-rate of MNOK 2,7 as of January 2018. The team is now working to expand its sales and engineering capacity, to grow the deployment of its product from the Nordics into its key markets in the EU.

The product is being offered as a subscription software, running in the cloud, and priced per building project according to size (budget).

BIM methods are mandatory in Norway since 2010, alongside most European countries, which is meant to increase resource efficiency in the construction sector, and strongly aligned with Imerso's product.

**From the left:**  
Software Developer Saeed Zanderahimi, co-founder and CTO  
Simen Andresen, co-founder and COO  
Sarah Müller, co-founder  
Frederico Valente.  
**All from Imerso. To the right project manager Mads Sørhus Lohne from Statsbygg.**  
Photo: Joachim See



The team has been using direct sales as the most effective channel to reach potential customers. Imerso is targeting property owners and team leaders as its end-customer, with users of the product including multiple parties - from design and architecture, engineering, building consultancy, main contractors, etc.

The product's main competitors so far are visual documentation tools, based on eg photos or 360° imageries, as well traditional laser surveying service providers and specialized engineering software tools.

Imerso identifies execution and marked risks as the key risks for the product right now.

## Revenue and profitability

The company started to generate revenue in 2016 with a pilot project (0,15 MNOK), before the commercial launch in Q4 2017, generating 0,55 MNOK in revenue.

Estimated revenue in 2018 is 5 MNOK.

Imerso currently has multiple projects ongoing with market leading players and expects to sign-up several more throughout the year. It is forecasted that the company will reach cash break-even within 2019.

# ANNUAL REVENUE

## QUICK FACTS

2014 Founded

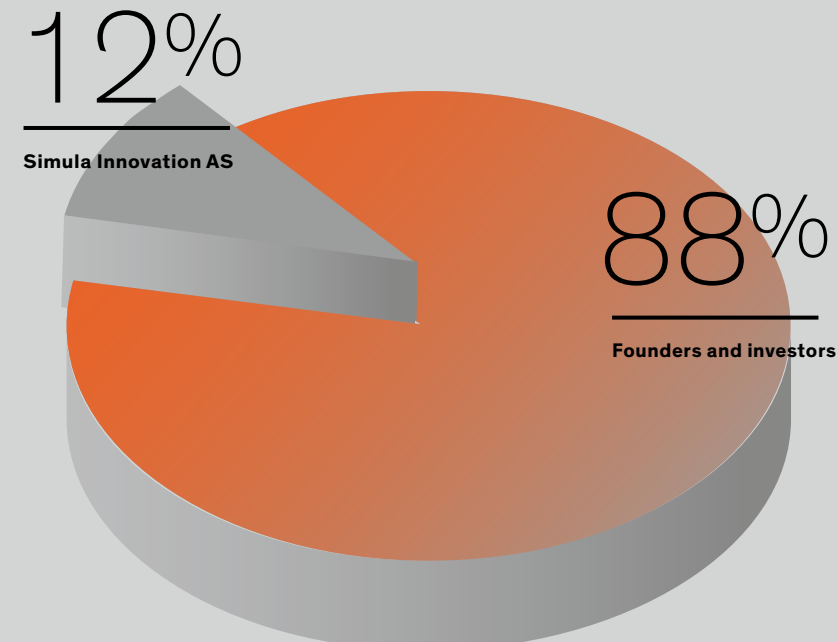
FREDERICO VALENTE ALMEIDA CEO

5 Employees

SOFTWARE Industry



## MAIN SHAREHOLDERS



# TRUEGROUPS AS

www.truegroups.com



## Background

The company was founded in 2013. Truegroups is a SaaS-based groups service optimized for the needs of associations, schools and families. Truegroups aspires to be the technology platform of choice for administrating associations and communicating with families

## Commercial proposition

Truegroups has a B2B business model with distribution eased by C2C features and functionality. The service is extremely easy to use and works for everyone with an email account. Users can choose if they wish to handle their communication in the app, on the web or via email.

The B2B business model focuses on facilitating payments and offering premium features for associations and schools. In a C2C deployment scenario, the service is focused on activities and enabling smart communication through its integrated messaging service.

Key success parameters are: continued high pace of product development, scalability through partners and developing network effects for end-users. Strategically, Truegroups will grow its offering by enabling 3rd party plug-ins for feature completeness in target verticals. Distribution will be mainly through partners.

## Key business drivers

Norway facts: 10 BN in annual membership payments to sports clubs, 700.000 students enrolled in obligatory schools, 160.000 students in after-school-care.

The main competitor is Facebook Groups (FB). However, there are specific areas in which FB does not meet the needs of our segment. FB provides more fun and social features, while Truegroups differentiates by being more of a utility service.

In terms of geography, the company focuses on Norway first. This market is mature and demanding from a competitive perspective, and it is a good geography in which to build a solid technology base.

Subsequent roll-out is expected in select European markets starting in 2018.

## Revenue and profitability

Revenue structure consists of three main elements:

- Direct sales sports and schools: 14 %
- OEM-based distribution sports and schools: 73 %
- Consulting and royalties from technology spin-offs: 13 %

The company has specified a growth plan for Norway: it expects a turnover of 40 MNOK in 2020, with a revenue split of 30% from payments, 55% from premium features, and 15% from spin-offs.



## QUICK FACTS

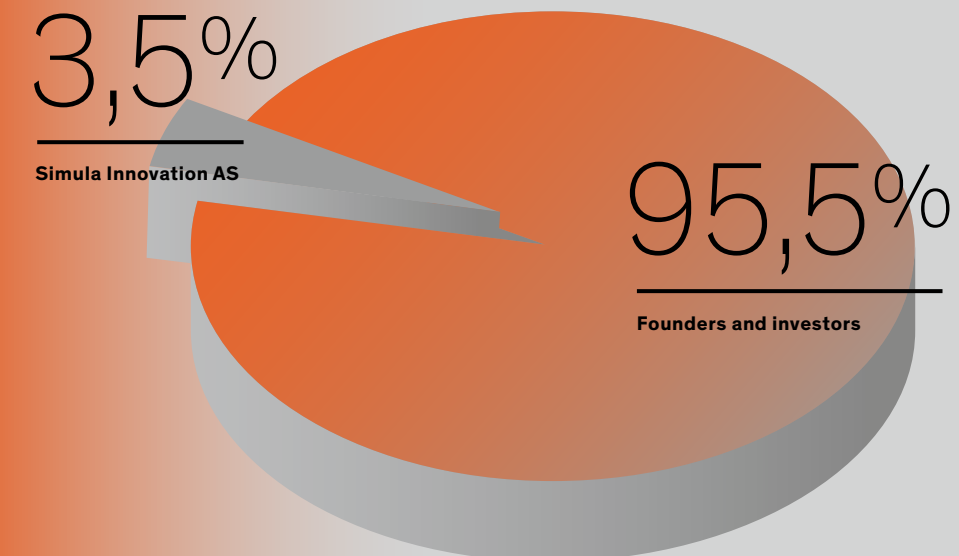
2013 **Founded**

JOHAN FREDRIK EID GØRRISSEN **CEO**

13 **Employees**

SOFTWARE **Industry**

## MAIN SHAREHOLDERS



# EYR MEDICAL AS

www.eyr.md



## Background and the team

Eyr's vision is to "bring the doctors' tool-set into the 21st Century" and thereby deliver faster, easier and more patient friendly healthcare.

EYR Medical has developed a secure digital communication app where patients can talk to doctors using video on their mobile or tablet, thereby saving the time of a personal visit.

The company was founded in 2015 by Karl Martin Lind (CEO) og Vegard Krogh-Reinsnes (CTO). Karl Martin has a strong finance and technology background, while Vegard has experience from military intelligence, technology and web design.

The current team also consists of 5 developers, a Business Development Manager, a Finance Manager, a Security officer and advisors within sales and healthcare.

The company will in Q2/Q3 2018 hire a marketing manager, a designer, a front-end developer and customer service professionals.

## Commercial proposition

The company estimates that 1 out of 3 visits to G.P. doctors could be replaced with a video call through their service. EYR Medical has already made agreements with insurance giants Storebrand, Gjensidige and DNB that gives access to over 300.000 users in Norway. The company also has an agreement to supply video doctor services to Falck Helse and their partners.

Our current user base consists of people with health/child insurance that covers most of/all of the consultation fees of 350 NOK. We also have a large customer base who pay for their own medical bills, without insurance.

The focus for product development in 2018 is secure file sharing between doctors, patients and insurance companies. The files can be medical images, referrals, doctor certificates and test results (blood sugar, blood pressure, CRP, etc).

## Key business drivers

There are 600.000 private health insurances in Norway, and the number is growing rapidly. The aim of EYR Medical is to get 40% of this market.

Through our current insurance partners we have the opportunity to enter other Nordic markets, where Denmark will be the first. Our aim is to enter Denmark in Q3/Q4 2018.

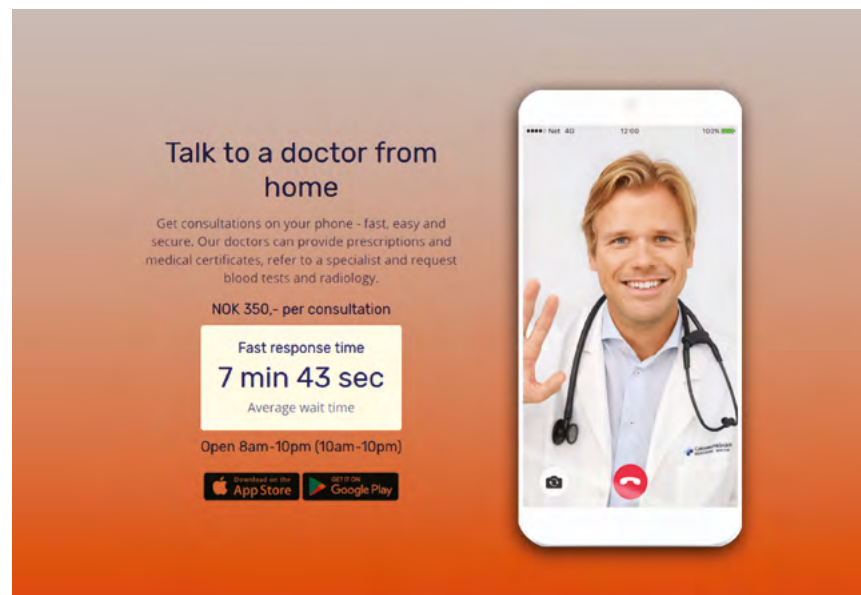
In Denmark and Norway we can get access to 1,5 mill health-, child- and travel insurance customers, just through our current partners.

Leveraging our product development in medical data sharing, we can find new and complimentary revenue sources from emerging trends in pharmacy/ home blood testing and wearable health technology.

With recently committed capital, we are planning to create extensive consumer awareness of Eyr in Norway through mass market channels in 2018. focuses on Norway first. This market is mature and demanding from a competitive perspective, and it is a good geography in which to build a solid technology base.

Subsequent roll-out is expected in select European markets starting in 2018.

The aim is to scale rapidly and reach positive and increasing EBITDA from Q4 2019.



## QUICK FACTS

2015 **Founded**

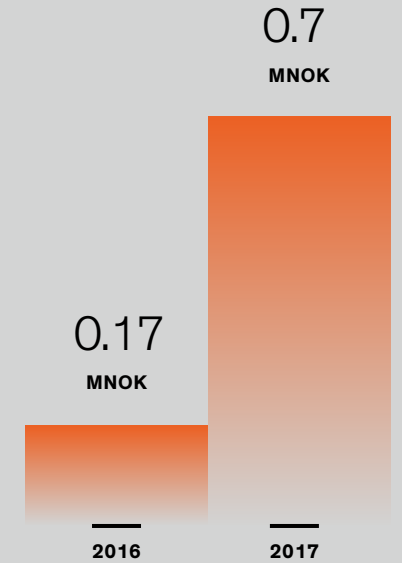
KARL MARTIN LIND **CEO**

10 **Employees**

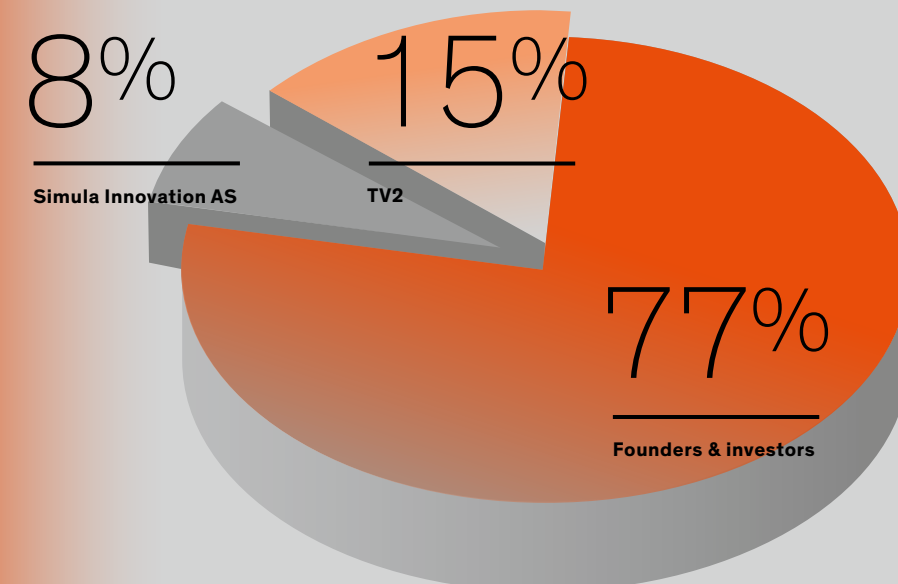
SOFTWARE **Industry**

STOREBRAND, GJENSIDIGE, **Key customers**  
DNB, FALCK HELSE

## ANNUAL REVENUE



## MAIN SHAREHOLDERS



# QUINE AS

www.quine.no



## Background and the team

Quine was founded December 2016 by Stian Vrba, Kristian Skarseth and Gunleik Groven. Simula Research Laboratory has joined in when activity started in January 2017.

Quine is developing workflow and automation solutions for the film and broadcasting industries. QuineBox IoT is our first product, which will be officially launched at NAB 2018.

Our mission is to automate and connect the data and metadata-flow of film- and TV-productions and build new and innovative solutions on top of an automated dataflow.

Competence, industry- and tech knowledge in addition to a close connection to our customer base and main markets, are currently our main strengths.

## Commercial proposition

Media- and metadata handling in Film- and TV productions is still mostly done manually. Due to rich metadata sets from cameras and other recording devices, combined with the drive towards cloud-based management solutions and the event of 5G, the market is more than ripe for more efficient and automated solutions.

Productions are traditionally divided in "Silos" with little to no real communication and crossover solutions. Quine's solutions connect all the parts of a production. There are huge savings to be had for the producers in making this flow more efficient.

Quine's philosophy is that connectedness, automation and cloud-computing will lead to a revolution in how productions are done and that what we develop can have an impact far beyond the obvious entertainment industry. There is a convergence of technologies developed for different industries we intend to tap into. Quine seeks to achieve results and bring forward products no-one yet has seen.

## Important customers and partnerships

During one year of activity Quine has already managed to get some important customers such as NRK, Storyline, Mikrosimage/Technicolor, BandPro, ARRI, Sony, Panasonic, RED, Microsoft and Telia.

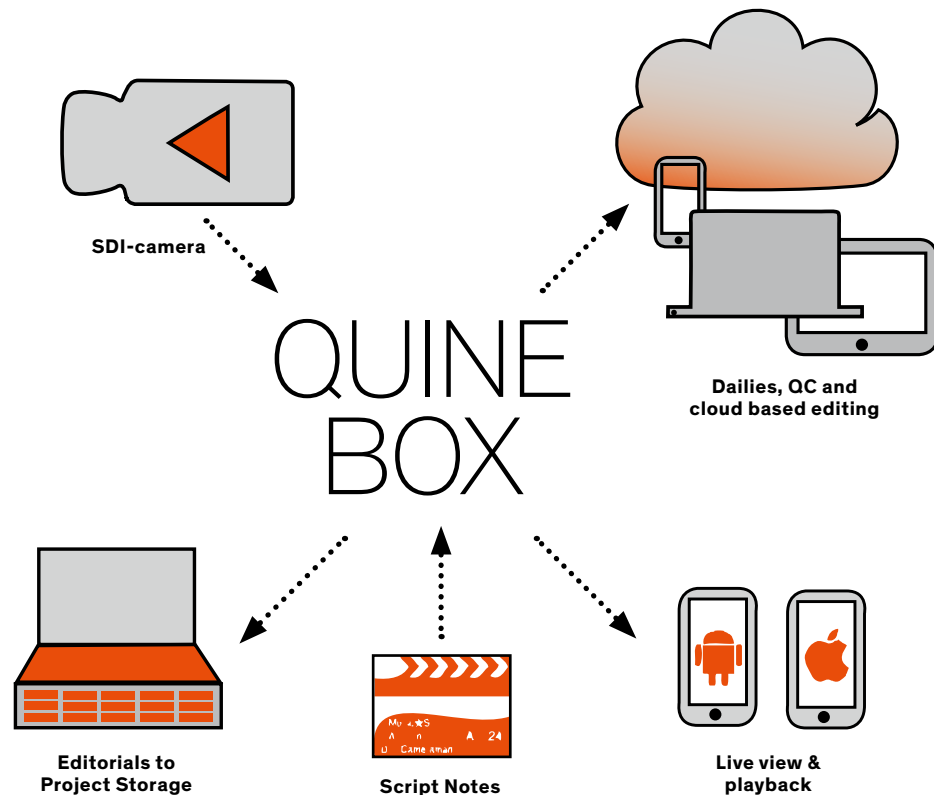
**NRK says they save 3-5 man-hours per camera per day with our hardware solutions, and an additional 3-5 hours in post-production with our management solutions.**

50% of the customer base is in USA and China. It has been a priority to have distribution channels, customers and partners in these markets from the very start.

## Finances

2017 was a challenging year with development in focus, but still the company had a commercial income of 0,6 MNOK. Stipulated hardware sales for 2018 is 7 MNOK.

Quine has an ambitious roadmap for the next few years and seeks industry partners and investors to contribute to realise their vision and plans.



# QUICK FACTS

2015 Founded

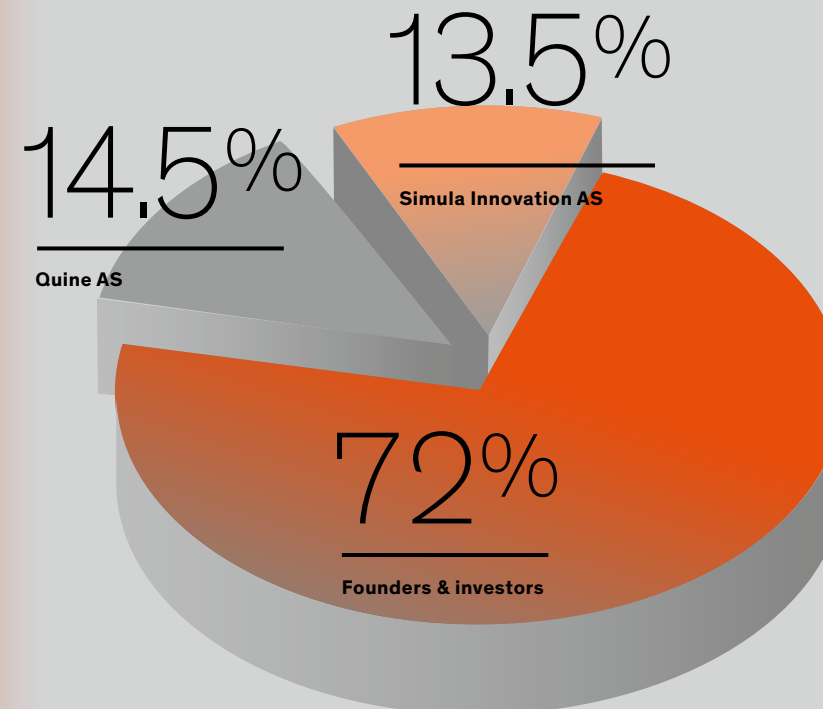
KRISTIAN SKARSET CEO

3 Employees

MEDIA Industry

NRK, STORYLINE, MIKROSIMAGE/Main customers  
TECHNICOLOR, BANDPRO,  
ARRI, SONY, PANASONIC, RED,  
MICROSOFT AND TELIA

# MAIN SHAREHOLDERS



# MEMOSCALE AS

www.memoscale.com



## Background and the team

The company is a spin-off from NTNU Technology Transfer AS.

MemoScale develops software libraries which improve the data loss protection mechanisms in large scale data storage systems. MemoScale's libraries and patented algorithms save costs for customers by reducing the CPU and hard drive footprint of storing data, as well as increase the performance of storage systems.

The team consists of six people including two professors with a proven track record and world class expertise in algorithm development, cryptography and low level optimizations.

## Commercial proposition

The amount of new data stored in the world is doubling every two years. In large scale storage systems, storage mediums like hard drives and SSDs fail or are unavailable from time to time. To avoid losing data due to hardware failures, companies have data protection mechanisms in place. All data protection mechanisms rely to some degree on adding redundant data, to be able to recover lost data after a failure. Redundant data requires extra storage space and is a significant component of the hardware cost per TB stored data. Compared to alternatives in the industry, MemoScale's data protection technology adds the least amount of redundant data to the original data, and still keeps the data protected to at least the same degree. The technology is also the best performing in the industry in terms of write and read speed.

MemoScale's products are software libraries which can be integrated into software defined data storage systems. The company also offers data protection plug-ins for the most popular open source data storage systems like CEPH, SWIFT and Hadoop File System.

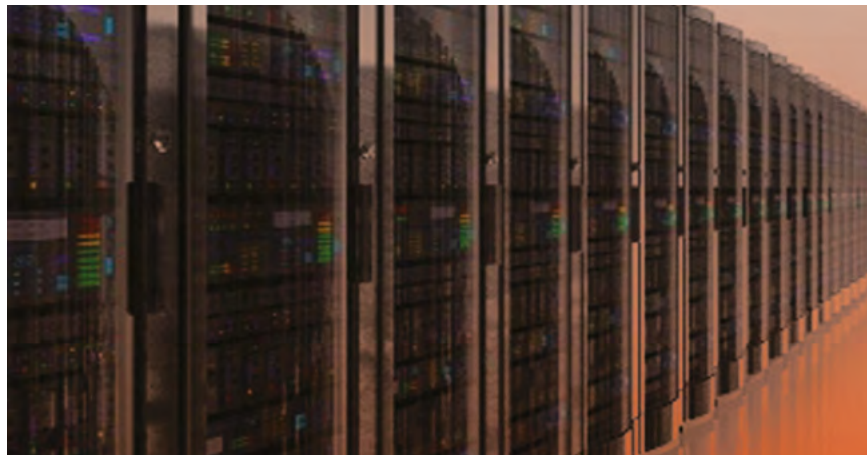
MemoScale's potential customers are vendors of proprietary storage systems such as IBM and NetApp, as well as research institutions and companies that store large amounts of data. MemoScale's core market is estimated to be 1.7 BN USD.

## Commercial status, plans and opportunities

MemoScale is currently working with several of the leading international companies in the data storage industry including vendors of proprietary storage systems and a public cloud provider.

A successful "in vivo" evaluation has recently been performed in a high performance software defined storage system in December 2017. MemoScale's product increased the write speed of the full storage system with 2X.

MemoScale closed the first international sale in May 2018, and has the product in production with a customer in Norway (a research institution).



MemoScale plans to scale up sales efforts with dedicated sales people as well as sales partners such as storage consulting agencies who install and maintain open source storage systems for customers.

Opportunities in the market can be very large due to the massive scale of the potential customers. "Hyperscalers" such as public cloud providers, Facebook and large research institutions are also the ones who have the strongest incentives to implement software solutions which decrease the hardware costs per TB of data stored.

## Revenue and profitability

Revenue for 2018 is expected to reach 4 MNOK.

In 2018, MemoScale will raise 3 MNOK to finance further growth.

## QUICK FACTS

2015 Founded

PER SIMONSEN CEO

6 Employees

DATA STORAGE Industry

## ANNUAL REVENUE

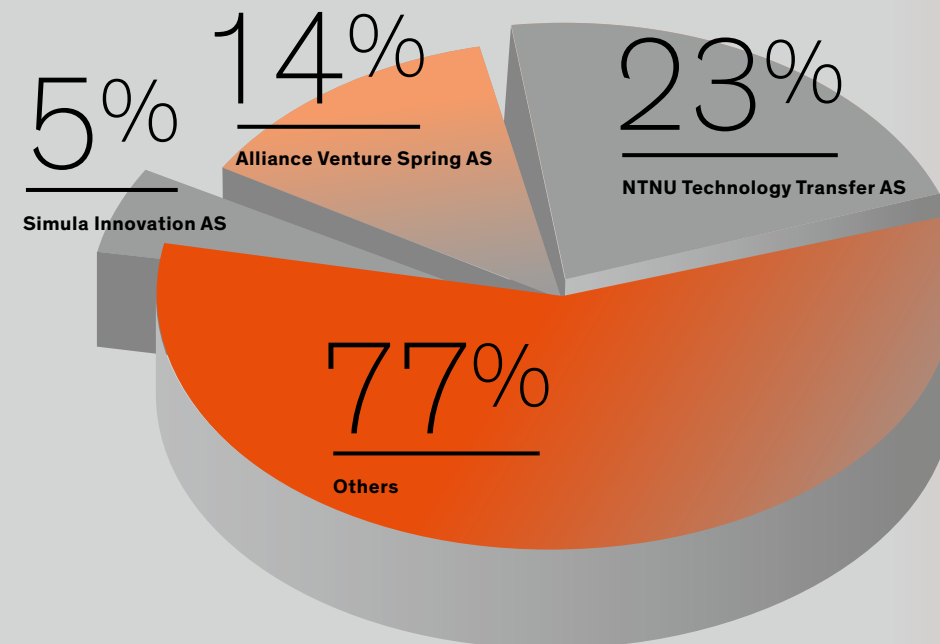
Erasure Coding - C-LIBRARY

- PLUGIN FOR CEPH

- PLUGIN FOR HDFS

- PLUGIN FOR SWIFT

## MAIN SHAREHOLDERS



# REBASIN TECHNOLOGY AS

www.rebasin.com



## Background

ReBasin Technology AS was founded in September 2017 in order to develop, market and sell advanced software products for oil and gas exploration.

The company is a subsidiary of Kalkulo AS, a successful consulting business that since its start-up in 2006 has served leading oil and gas companies with novel and tailor-made software solutions. These solutions are business-critical and offer strong competitive advantages to its users.

**Our vision is to become the game changer in exploration by systematically using 4D analysis to unlock the petroleum potential.**

ReBasin Technology will put innovative tools, capable of disrupting traditional and conservative exploration workflows, in the hands of the next generation winners in the oil and gas industry.

## The Challenge

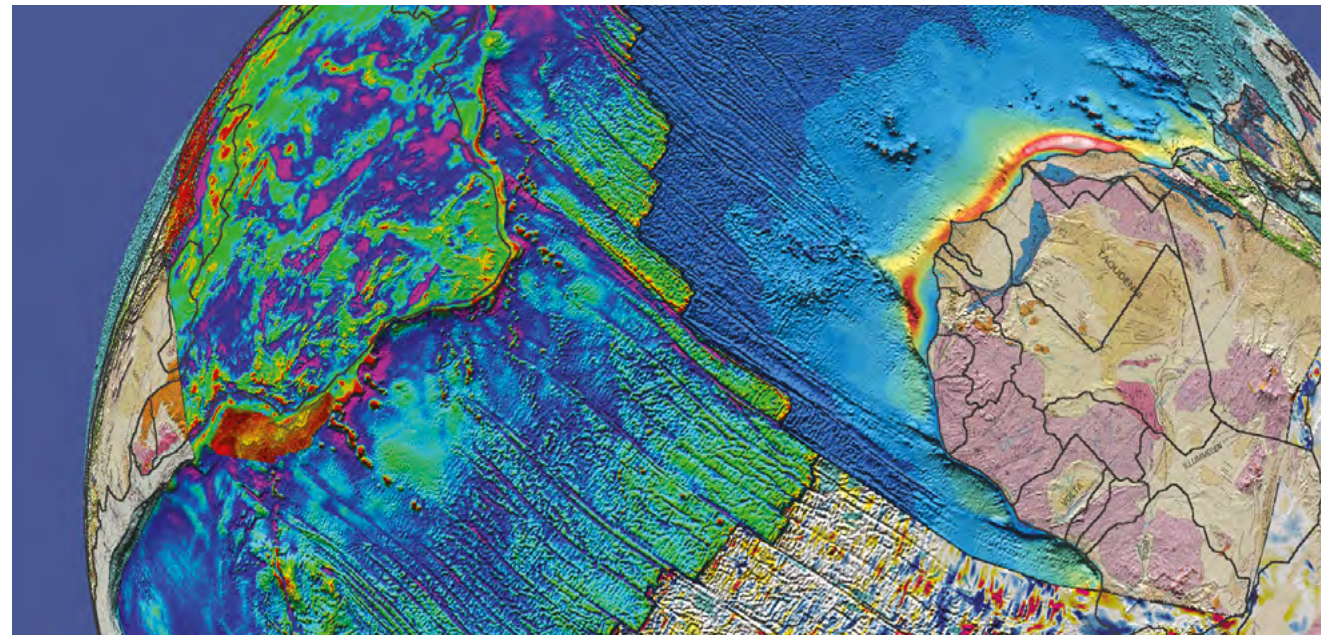
Drilling exploration wells is the most expensive part of E&P, costing up to 100 million USD each – but almost 1 out of 3 wells are dry. Despite the technological advances over the last 50 years, the impact on drilling success has been marginal.

The ultimate challenge in exploration is to obtain the best possible understanding of the geological evolution of a basin, in the context of its surrounding region. Exploration success will thus follow from consistently applying all available data in integrated 4D analyses of license blocks, basins and global plate tectonics.

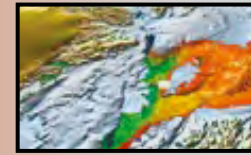
## Commercial proposition

4DPlates handles lateral and vertical processes simultaneously. Avoid wrong conclusions due to ignoring the lateral and vertical displacements caused by tectonic processes.

**ReBasin 4DPlates  
The Geological Storyteller**



# REBASIN 4DPLATES



Combining scales – seeing the bigger picture

4DPlates provides a model for the basin evolution that is consistent with the history of the region

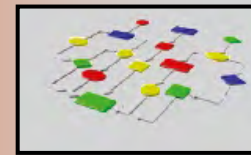
Focusing on a too small scale is a common source for wrong hypotheses



Integration of tectonic and sedimentary processes

Lateral and vertical processes are handled simultaneously

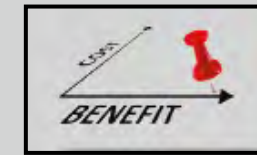
Too often, the lateral/vertical displacements caused by tectonic processes are not taken into account



Integration of all data, across all sources

4DPlates allows numerous interdisciplinary data to be integrated and restored

4DPlates bridges different disciplines by letting data fuel efficient and agile workflows



Interactive 4D visualization – efficient scenario testing

It is easy to build models, see the effects of changes, make refinements and compare with other models

4DPlates provides a powerful quality assurance of your interpretations and hypotheses

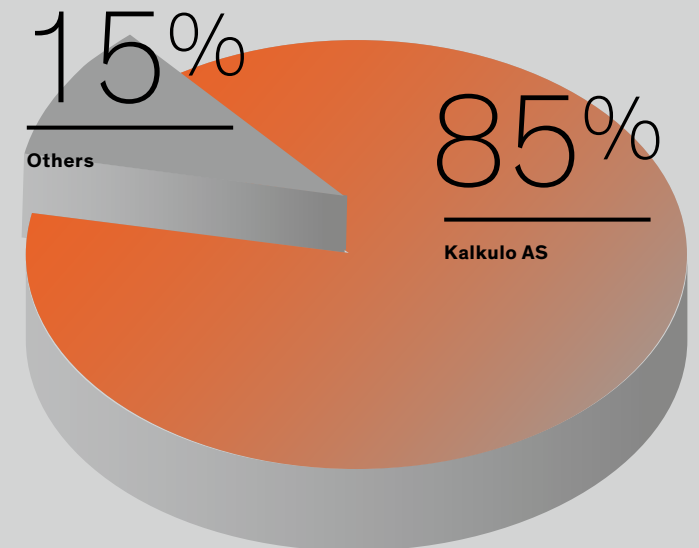
## QUICK FACTS

2017 Founded

ARE MAGNUS BRUASET Director

SOFTWARE Industry

## MAIN SHAREHOLDERS



# FÁCIL AS

www.getfacil.com



## Background

Fácil is a cloud-based platform that enables hotels to be digital - instantly. It's a SaaS within mobile Checkin & Checkout, digital key, indoor positioning, orders and all the other services you'll find at a hotel - all in one solution.

The goal is to capture every aspect from check-in to check out and be the preferred companion when traveling.

## Commercial proposition

Today's Checkin & Checkout procedure is a long, traditional and winding process - both for the guest and hotel staff. fácil eliminates the travel hurdles and creates a huge opportunity for up-sales and memorable guest experiences.

The value proposition to hotels: Our platform enables hotels to be both cost and time efficient and at the same time deliver extra ordinary services. An integrated platform for the hotels POS and PMS allow hotels to save money by removing employees from non-profitable areas like the reception to more gainfully labor like room service, spa treatments, location-based deliveries, etc.

Value Proposition to guests: One app - all hotels. Save time by checking in before your hotel stay. Receive a mobile digital key and be presented with a map giving you directions directly to your room at arrival. Since we are a third party, we can be integrated into every hotel despite different chains and PMS-providers - giving the opportunity to use fácil everywhere.



**Fácil – The future hotel experience:**  
A Cloud based platform that enables hotels to be digital - instantly. Featuring: mobile Check-in & Checkout, digital key, indoor positioning, orders and much more!

A prototype of fácil have been installed at Scandic Vulkan for the last six months, and they clearly see the potential. Monica Egeberg, General Manager at Scandic Vulkan states that:

"We are only seeing the beginning of the digital journey in the hotel industry, and we definitely want to be a part of it. Fácil will help us meet the new challenges, with new and exciting solutions that provide clear benefits for our guests".

## Key Business drivers

There are a lot of hotel apps in the market, some of them with similar solutions like fácil. However, there is a small but highly relevant problem - every hotel builds their own apps. This creates a huge assemble of available apps, and the end-users wouldn't spend time downloading them for a single stay at one particular hotel. fácil challenges hotels to cooperate across chains for the best of their guests. We see this happen in every market these days; banking with

Vipps, taxi with Muvai, accommodation with Airbnb, and so on. Hotels have always been a late bloomer when it comes to implementing new technology, but the competition is harder than ever, and they feel the need to change.

In cooperation with our partners, we have the opportunity to deliver one of the world's most accurate positioning technology based on BLE. This makes it possible to deliver services directly to end users with very high precision. Under optimal conditions, it's a margin of error of only +/- 15 cm.

The first commercial contract is in place, and we have some highly promising prospects in the pipeline. Innovation Norway has supported us with two grants of a total NOK 700 000.

Our goal is to have signed 100 hotels by the end of 2018 and have 400 new hotels next year. fácil strives to be an international brand by the beginning of 2019.

## QUICK FACTS

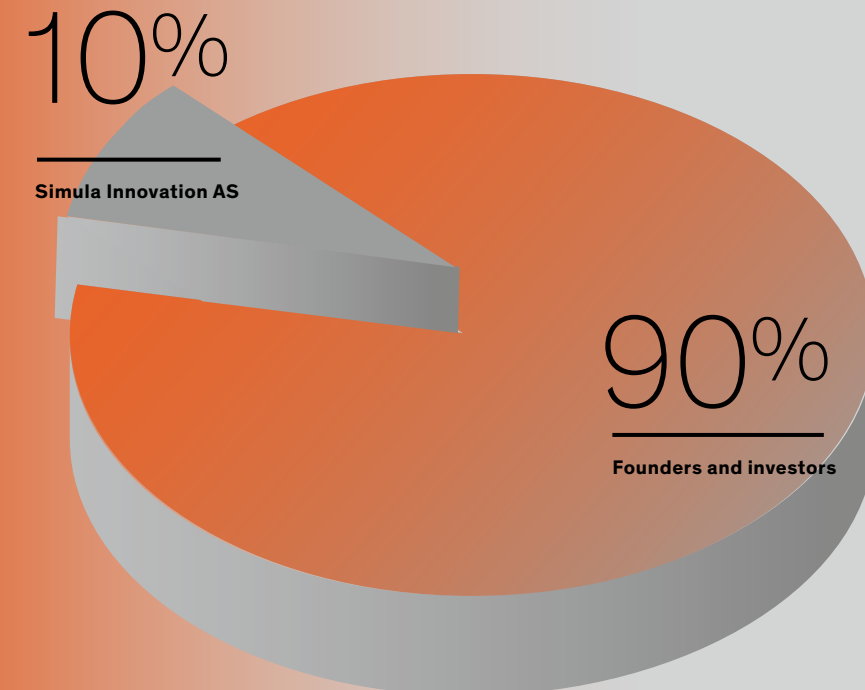
2016 Founded

ALEXANDER WEISS RICHTER CEO

10 Employees

SOFTWARE Industry

## MAIN SHAREHOLDERS



# CONSULTANCY COMPANIES IN SIMULA'S PORTFOLIO

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<sup>34</sup> Kalkulo AS

<sup>36</sup> Testify AS

<sup>38</sup> Expert Analytics AS

# KALKULO AS

www.kalkulo.no



## Background and the team

In 2006, Kalkulo AS spun out of the scientific computing group at Simula on the basis of long-term R&D collaboration with Statoil.

Kalkulo is an advanced consulting company with 19 employees, of which 11 hold PhD degrees in mathematics, physics, geology, and computer science.

We provide services to the energy sector, with special emphasis on the oil and gas market and with renewable energy as an emerging area.

## Commercial proposition

Kalkulo delivers tailor-made and cutting-edge software solutions based on expert competence in geometric modeling, visualization, numerical simulations, and data analysis. The main target for such consulting is the exploration departments within oil and gas companies, often in collaboration with business units.

Kalkulo also provides geoscientific analyses as technical services. Such services usually address specific needs in business units of an oil company, for instance when preparing for bids on specific reservoir blocks.

An increasing activity within Kalkulo's project portfolio is management and analysis of multi-modal and multi-scale data collected across a wide range of sources. Such work also covers tools and analyses for business decisions and environmental assessment, for instance in performance monitoring of wind

parks or tracking of metocean data in environmentally critical regions.

The common denominator for most Kalkulo projects is efficient and accurate handling and analysis of time-varying, geospatial data that provides new insight in the underlying physical systems. Machine learning is increasingly used for these purposes.

## Key Business drivers

Kalkulo works for the most innovative exploration companies active on the Norwegian Continental Shelf, such as Statoil, Lundin, Aker BP and Idemitsu.

Together with Statkraft we have developed the software Torch for the management of wind farms. At the core of our software is a powerful analysis engine, which allows windfarm

owners to make the most of their data and competence, and increases profitability (see Figure 2). This engine is also applicable to other business areas.

Kalkulo benefits from Simula, a competent and stable owner that provides access to a world-leading research environment.

We are a highly professional team. We work in close collaboration with our clients and aim to provide excellent results. The company has generated a positive operating profit since it was established.

Over the last years, Kalkulo has been heavily investing in technology and software development. From 2018, we are taking a new step and will provide products to the open market through our spin-off company ReBasin Technology AS.

Figure 1. Vast quantities of information are collected by wind turbine manufacturers and operators. Kalkulo helps wind farm owners to monitor and understand these data.



## QUICK FACTS

2006 **Founded**

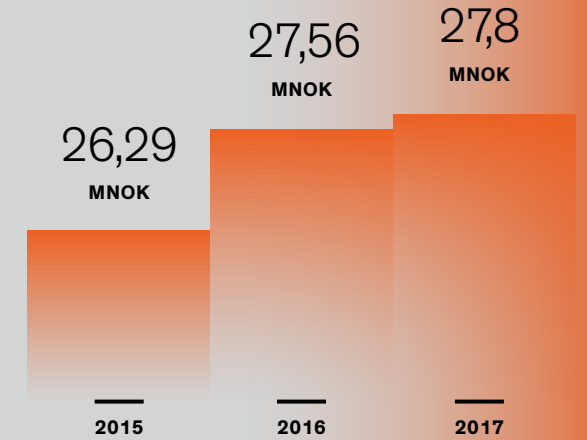
ARE MAGNUS BRUASET **Director**

19 **Employees**

SOFTWARE **Industry**

2006 **SI investment date**

## ANNUAL REVENUE



## PRODUCT & SERVICES

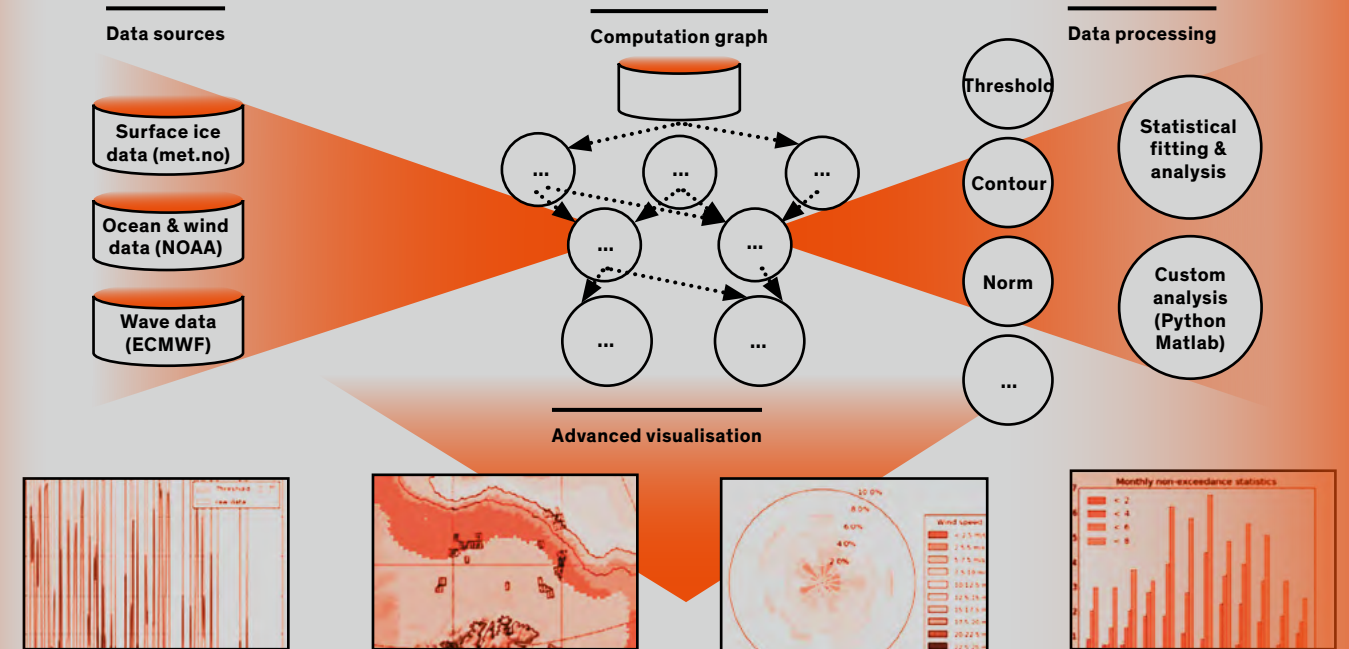


Figure 2. A powerful analysis engine is at the core of the software Torch. Many advanced calculation steps are necessary to obtain reliable results.

# TESTIFY AS

www.testify.no



## Background

Testify AS is a spinout company from Simula Research Laboratory.

We are a recognized consulting company in IT system testing. Currently the main asset is the knowledgebase and the exceptional people working for the company.

Testify also develops a better automated testing software for companies in the public and private sectors by providing mechanisms for automating parameterized testing and test data generation efficient and effectively. This is called ecFeed.

## Commercial proposition

Testify improves testing by introducing effective and agile testing processes, automated test framework and systematic test evaluation.

Testify is the leading niche player in the Norwegian market in terms of competency.

The company has long experience in test automation, supply chain testing and technical testing (especially in performance, robustness, load, security, maintainability). This competence enables the consultants to undertake performance testing with great efficiency.

Main features include risk-driven testing using automatic fault prediction, model-based testing, and automatic test case/oracle generation and execution. Ensuring that systems under test have sufficient response times, throughput, robust under stress, handle higher load, identifying bottleneck, identification of where the system will fail and to improve the system (reduce consequences).

## Key Business drivers

The company has recently won a number of frame agreements with the public sector in Norway: Skatteetaten, Tolldirektoratet, Politiet, Ruter, NAV, NRK, Hinas and Statens Veivesen.

The company also has several projects in the private sector, including BankAxept, TheMoon, and GET.

Testify have a strong network of partners, such as Certus, Simula, Soco, Unicus, Promis and others.

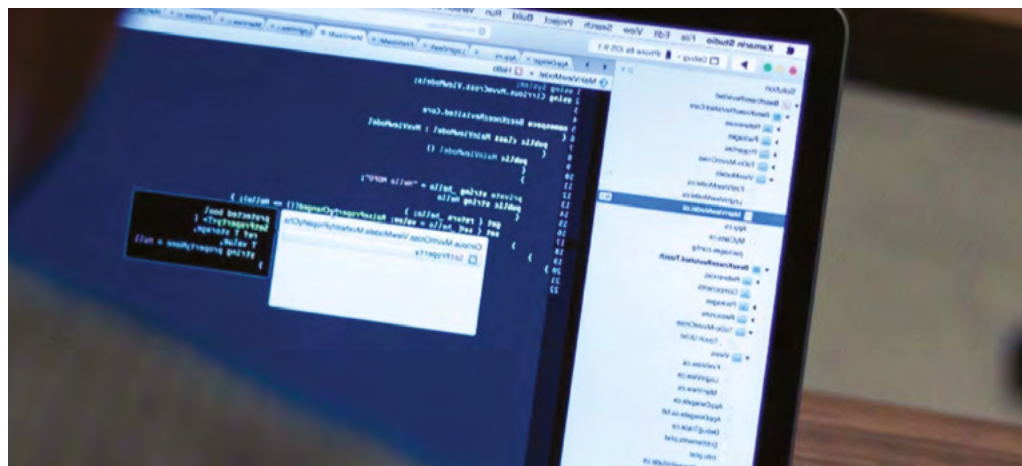
The company has two subsidiaries: ecFeed and Radytek.

ecFeed has developed an open source, model-based testing tool that supports automated generation of test data for many different purposes.

Radytec is a consultancy company, based in Poland, offering experienced developers and testers.

Revenue growth has been at 50% over the last few years, and the company expects this pace to continue for the next 3-5 years.

Testify has been the Gazelle company in three last years.



## QUICK FACTS

2010 **Founded**

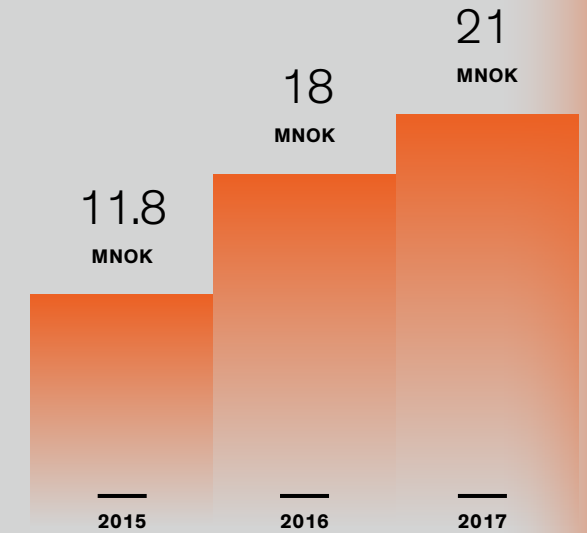
**ERIK ARISHOLM** CEO

18 **Employees**

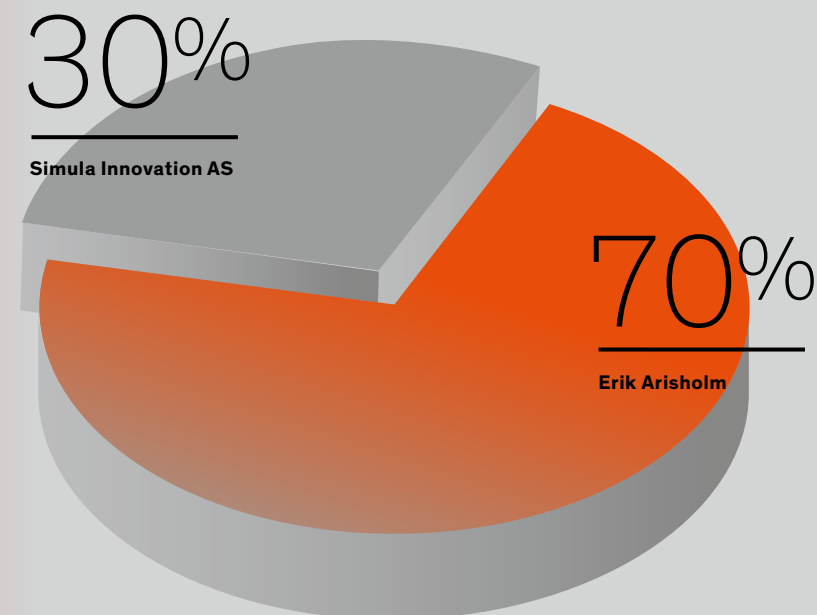
**SOFTWARE** Industry

**SKATTEETATEN, TOLLDIREKTORATET, POLITIET, RUTER, NAV, NRK, STATENS VEIVESEN, GET** Key cutomers

## ANNUAL REVENUE



## MAIN SHAREHOLDERS



# EXPERT ANALYTICS AS

www.expertanalytics.no



## Team and competence

Expert Analytics, a spin-out from Simula Research Laboratory, is a Norwegian consultancy offering high-quality technology solutions to both domestic and international customers.

The team currently consists of 13 consultants: 6 PhDs, 6 Masters, and one PhD student. By 01.08.2018 Expert Analytics AS will have 17 employees.

Our experts have years of hands-on experience in the natural sciences, which translates into an ability to analyse and solve complex challenges. For the client, it guarantees that our solutions will not only meet their needs but also go beyond their expectations.

## Mission and goal

Expert Analytics offers services within the following fields:

- Data analysis
- Numerical programming
- Machine learning
- General software development, such as applications, web, libraries, integrations, scripting, etc.
- Advisory services within ICT
- Training

We are building a modern knowledge business where we invest in newly graduated students and put them to work on challenging tasks in the industry. If the problem is difficult to solve, or even hard to formulate, we want it.

Our goal is to grow organically by employing talented students when they graduate.

## Important customers and partnerships

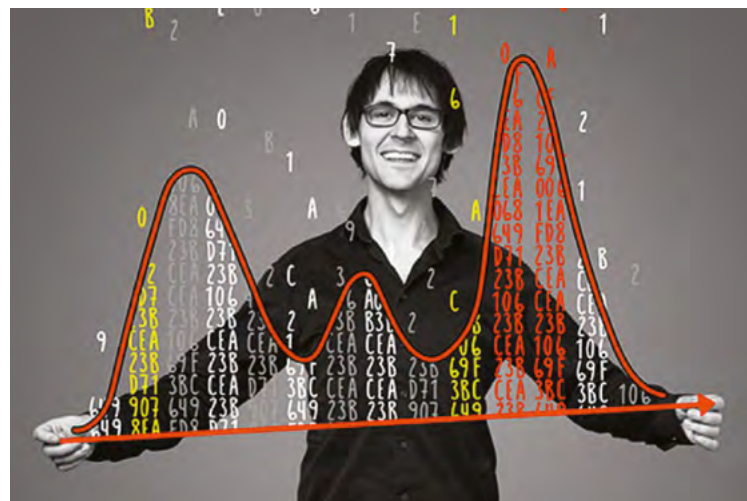
Our most notable customers are Statkraft, Vipps, and Onco Immunity. We have established close collaborations with Simula Research Laboratory and the University of Oslo.

## Success stories

Statkraft is our biggest customer. We have been central in the development of several operational solutions, such as SHyFT (<http://shyft.readthedocs.io>), LTM Analysis Platform, and AQUA, where we have done everything from designing high performance low level architecture for distributed hydrological forecasting, to interactive visualization of time series data and machine learning for automatic quality assurance of measurement data.

We have been deeply involved in developing mobile payment systems in Norway. First at mCASH where we played an important role in developing the core logic as well as reporting services, and later on continuing this work when DNBs Vipps solution and mCASH were merged into the new Vipps AS

OncoImmunity is a small research based startup company. We have been central in developing their scientific toolkit solving bioinformatics challenges within the field of immunotherapy. This includes both developing state of the art applications, and implementing code for deploying tools such as a SaaS.



Jonathan Feinberg (Expert Analytics) uses mathematical methods to calculate everything from avalanche risks and power consumption to cancer treatments. Foto: UiO

## QUICK FACTS

2013 **Founded**

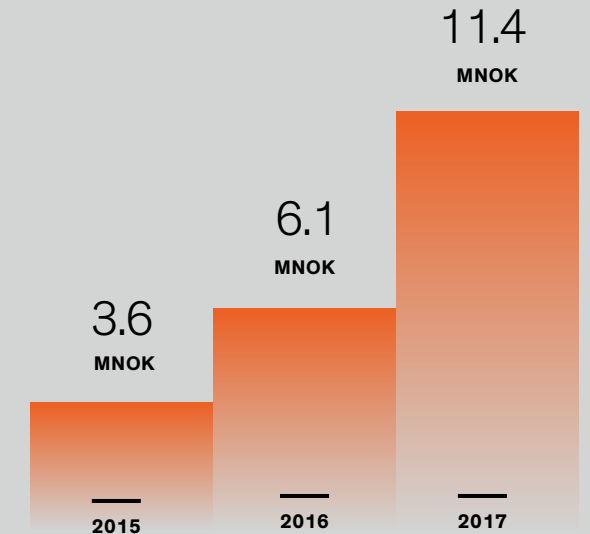
ÅSMUND ØDEGÅRD **CEO**

17 **Employees**

CONSULTANCY **Industry**

STATKRAFT, VIPPS, **Key customers**  
ONCO IMMUNITY

## ANNUAL REVENUE



## MAIN SHAREHOLDERS

