Archaeology
Carbon Capture, Utilisation and Storage
Civil Engineering
Geothermal
Mining
Oil and Gas
Seismic Risk

Europe | 2020

realtimeseismic (RTS) unlock geothermal potential with STRYDE

THE CHALLENGE

While 3D seismic has helped the oil and gas industry unlock the subsurface for decades, its potential to do the same in other businesses, such as geothermal, has remained largely untapped. This is primarily due to cost and complexity.

Like oil and gas, the geothermal industry can use seismic to look for certain geological formations, faults and fractures in the Earth's crust and make decisions about where to drill.

Understanding the structural geology and stratigraphy of the subsurface is essential in this business. Knowing where faults and stress fields lie helps a developer decide where to tap into the rock's natural permeability and optimise well trajectory. The STRYDE system helps users better understand the risks linked to induced seismicity generated by drilling and injection activities.

Geothermal developments are typically located in urban or industrial areas. This introduces additional seismic imaging challenges which are particularly prevalent if attempting to use traditional cabled systems or bulkier nodes. For example, seismic crews and their equipment have limited access in urban environments. Often roads must be closed to allow for vibroseis trucks to shoot and for receiver equipment to be moved around. Additionally, users are more restricted about where they can place receivers. Traditionally, these challenges meant that developers had to compromise on survey geometry, and ultimately seismic quality, by acquiring sparser surveys.

BEFORE STRYDE, THERE WERE COMPROMISES ON SURVEY GEOMETRY AND SEISMIC QUALITY.

Making high density seismic affordable for any industry.

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“

We were very impressed with realtimeseismic’s capabilities and eagerness to learn about our technology and eventually embrace it for their seismic projects.

AMINE OURABAH
Head of Processing, STRYDE

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THE SOLUTION

STRYDE is working with realtimeseismic (RTS) to change all this. RTS was founded in 2016 to develop real-time seismic solutions and integrated geoscience products. The team had been aware of our work for some years and was actively looking for mutually beneficial opportunities to work with us in both mature and developing seismic markets.

The STRYDE Node™ offers RTS and its geothermal clients the perfect solution for all the challenges that the industry has traditionally faced. Our autonomous nodes are both affordable, very small and extremely light, which means they can be carried into a city in a backpack and deployed almost anywhere without affecting the environment.

Since image quality is critical in managing geothermal risk and cost, RTS conducted a series of comparison tests to benchmark our Nodes. Those tests showed that thanks to the size and weight advantages, our technology is more efficient than competing nodal systems, without any compromise in data quality. On that basis, RTS felt confident taking our system out into the field.

THE SAME VISION

“It has been an absolute joy to work with Claudio and his team. They are passionate about their mission in the same way that we are and saw the potential of our system as soon as we started talking to them.”

AMINE OURABAH
Head of Processing, STRYDE

THE RESULT

RTS has now used STRYDE's nodal system to conduct several 3D seismic studies for geothermal clients in Europe, using about half the number of crew and vehicles than they used to with the current market leading nodal system. In one project, RTS was able to shoot a city-based 3D study in just one month, versus the 6-10 months it would have once taken with cables. This is thanks to the flexibility of our nodal system but also the speed at which data can be processed once our nodes are harvested.

What's more, we've shown that irregularity of data – caused by restricted access in a city – is no longer a barrier to accurate imaging. Modern software these days can handle data's random nature. When combined with high trace density acquisition, this randomness is actually beneficial and can help reveal the 'true geology' of the subsurface, rather than a self-imposed grid image known as acquisition footprint.

We believe in working with our clients in an open, collaborative way. To that end, we've encouraged RTS to give us feedback so that we can keep evolving our system. For example, we've made improvements to our tablets to make them more user-friendly in urban environments.

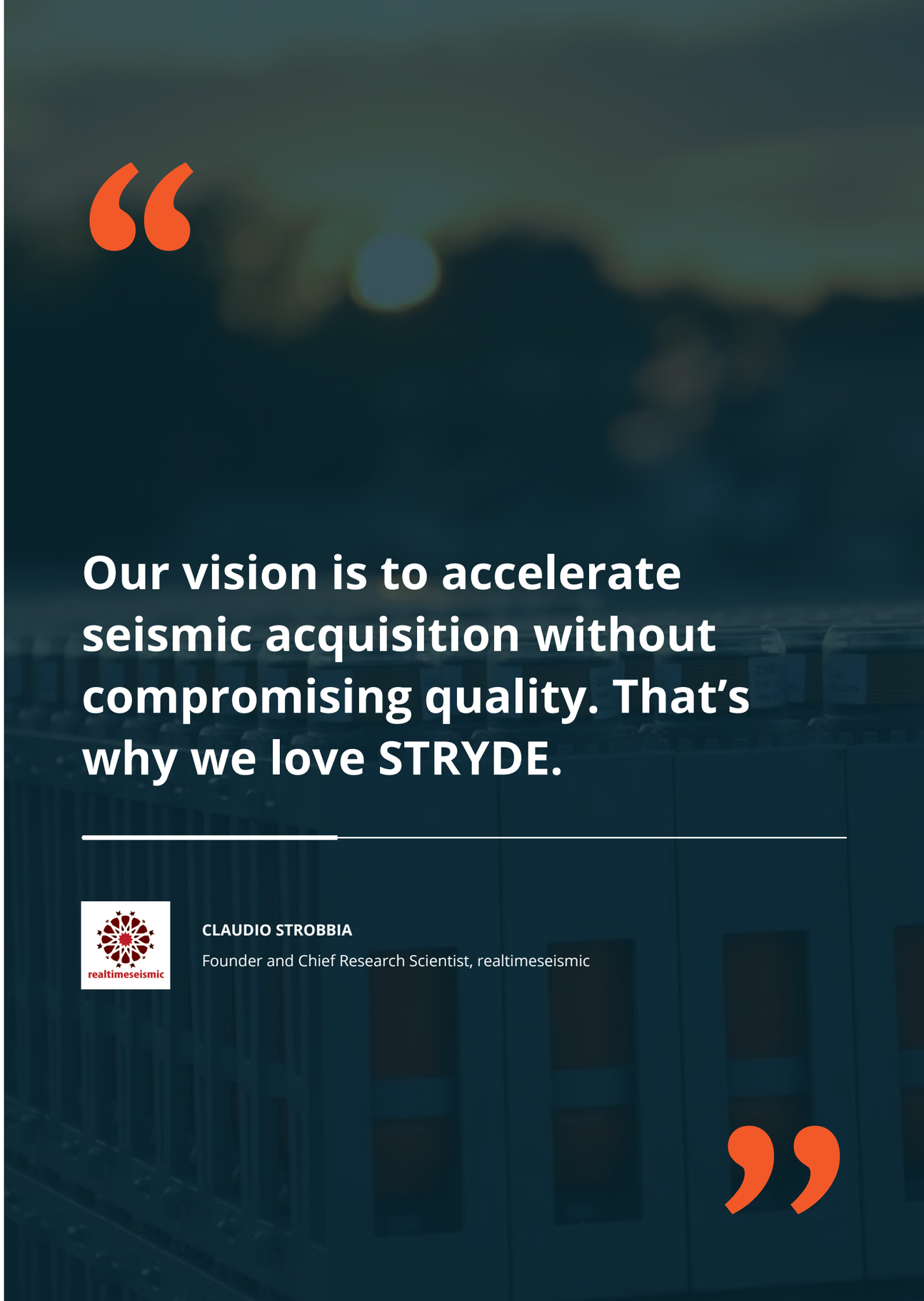
RTS has also told us that they are impressed with our flexible, agile approach and just how easy it is to use our system. For example, during the Covid-19 pandemic, we posted a set of nodes to help the team keep a US seismic project on track, even though they were unable to send anyone into the field. Instead, RTS hired a farmer, tractor and two labourers to deploy and retrieve our nodes from the farmer's field!

The geothermal industry has been constrained by cost for decades. But our ongoing work with RTS is proving that with the right technologies, 3D seismic acquisition can be affordable, fast and high quality, offering new seismic opportunities to previously under-served industries.

INCREDIBLY HAPPY

STRYDE are extremely committed, highly qualified scientists and technicians who have helped us do things that simply weren't possible before. They've also enthusiastically accepted every test idea we've come up with. There's a real sense of co-operation and a shared passion to make every project a success. The proof is that our geothermal clients are incredibly happy with the results they're seeing. STRYDE's technology is taking away much of the risk they would traditionally face.

CLAUDIO STROBBIA
Founder and Chief Research Scientist, realtimeseismic



Our vision is to accelerate seismic acquisition without compromising quality. That's why we love STRYDE.

CLAUDIO STROBBIA
Founder and Chief Research Scientist, realtimeseismic

Let STRYDE help you go further.

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ABOUT STRYDE

STRYDE's mission is to make high density seismic affordable to any industry.

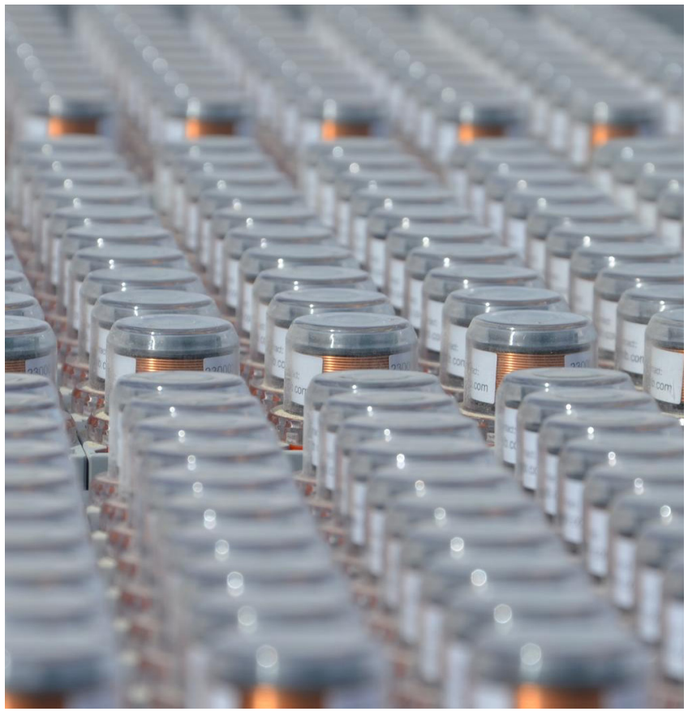
STRYDE's customers benefit from a substantially reduced environmental footprint, reduced HSE risk, faster surveys and significant operational efficiencies. Put simply, STRYDE's products save customers money and time while enabling them to deliver higher quality seismic data.

Just 18 months into its journey, STRYDE technology has already been used for oil and gas exploration, geothermal, mining, CCUS, assessing seismic risk, passive seismic and even for archaeology. This diverse range of operating environments demonstrates the versatility of the STRYDE system, which can scale to meet any end user requirement on any land terrain.

HOW CAN STRYDE'S SEISMIC ACQUISITION SYSTEM HELP ME?

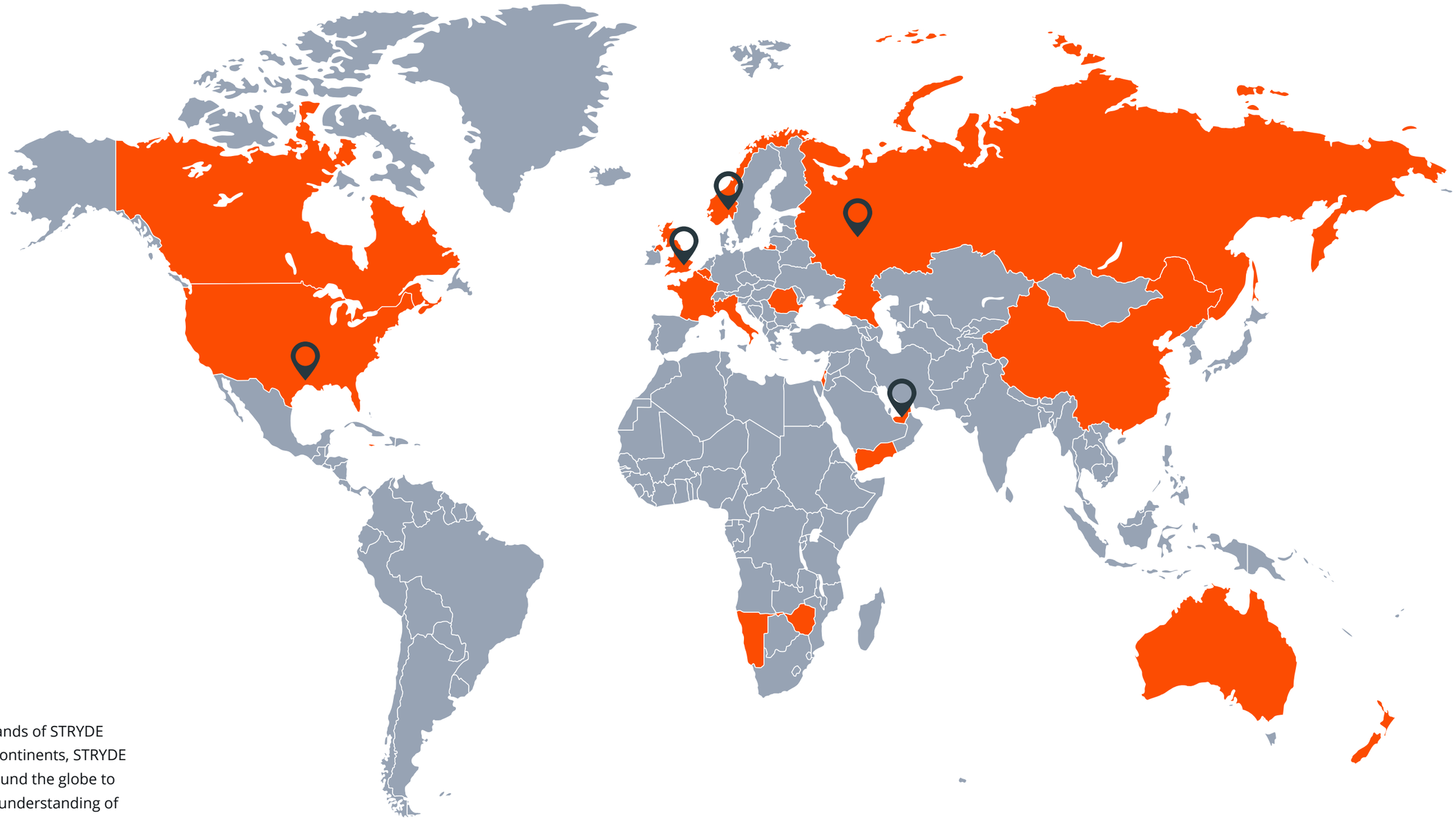
HERE'S HOW

- Small high quality sensors
- Autonomous operations
- Easy to use
- Reduced HSE risk
- Lower environmental impact
- Unparalleled seismic imaging
- Affordable and scalable technology



CASE STUDY

THE STRYDE MAP



LIGHT THE DARK

With hundreds of thousands of STRYDE nodes deployed over 5 continents, STRYDE is helping customers around the globe to acquire an unparalleled understanding of the subsurface.

STRYDE Offices

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