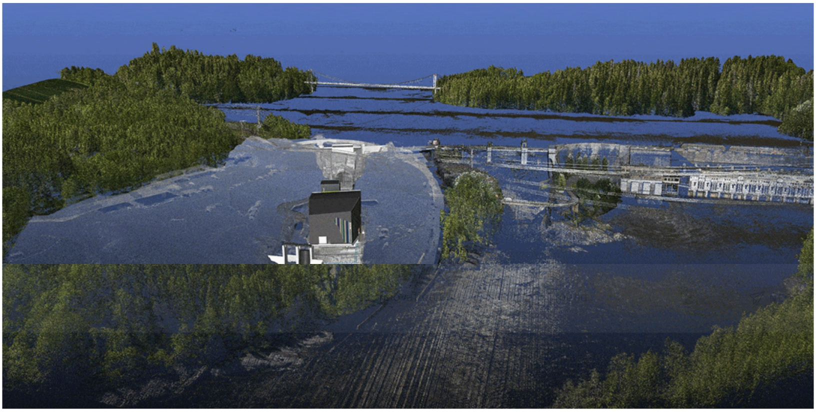
6 Ways Norway's Norconsult Cultivated Its Innovation Culture in Unlikely Ground

BY MATT ALDERTON CONSTRUCTION - MAY 8 2018 - 6 MIN READ



If you want to understand business innovation, look to the African savanna, where the grasslands are teeming with corporate caricatures.

Consider elephants. Their powerful brains can interpret human body language, recognize long-lost companions, and memorize complicated routes. Their massive frames give them enormous strength, but that bulk also makes them slow and clumsy.

Then there are gazelles. Thin and graceful, they are infinitely more agile. Because they are vulnerable to predation, they keep perpetual watch over their surroundings, relying on keen eyesight and nimble anatomy.

In business, organizations typically are either elephants or gazelles. The former rely on their size, experience, and knowledge to succeed, but often struggle to adapt. The latter are quick and lean, but also inexperienced and overconfident.

At first glance, Norwegian architecture, engineering, and design consultancy Norconsult looks like an elephant. Based in Sandvika, Norway, the firm has nearly 3,300 employees across 88 global offices and a portfolio of more than 20,000 projects spanning nearly eight decades. These attributes are obvious advantages, but facing increased competition and advanced technology, Norconsult deduced it

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needed to act more like a gazelle and embarked on an innovation journey to infuse its conventional culture with unconventional ideas.

Leading the way is one of Norconsult's most "gazellean" employees: technology manager Marius Jablonskis, whose role is to assess the company's processes and find the most efficient uses of technology.

"There is a quote I like: 'The best way of predicting the future is creating one yourself,'" Jablonskis says. "If you wait and do not change, then you will find yourself in a situation where your workflows have been defined by somebody else."

See how Norconsult used VR games to design the Ulriken Tunnel.

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It's the difference between grazing with your head up so you can see predators coming or down so you can't. When Norconsult put Jablonskis at the head of its herd, the firm fixed its gaze forward.

Shepherding an idea to reality requires organizations to fundamentally change their culture, promoting instead of punishing risk-taking, according to Jablonskis. He attributes Norconsult's innovation culture to a few key themes:

1. Embrace Teamwork Mentality

Innovations typically are attributed to the individuals whose ideas inspired them. But in reality, innovation is a team effort, according to Jablonskis, whose work at Norconsult has been bolstered by Bleeding Edge, a multidisciplinary group of forward-thinking employees who convene regularly to discuss their most disruptive ideas with peers who will support, challenge, and assist them. Jablonskis believes there's strength in a group that functions as an organism rather than relying on a leader to make all of the decisions. "When you get a group of equals together to work on something, that's what generates excitement and makes everyone want to push further."

2. Rely on Facts

Successful innovation is based on facts, not assumptions. "Don't assume customers don't want it, or that contractors can't deliver it," Jablonskis says. "Ask them. Even if you get 'no' as an answer, if you still are convinced it's the way you should do it, do it. Make it a success and show the results. Results will get you further than promises can."

3. Implement Supportive Management

"You will not go far without support from management," Jablonskis says. Companies that want to build innovation into their DNA must appoint leaders who appreciate its value. Norconsult CEO Per Kristian Jacobsen, for example, experienced the complexity of innovation culture firsthand when he managed multinational energy management firm Landis+Gyr's research and development department in the early years of computing. "You have to have the right people in the right places who have respect and understanding when it comes to technology and innovation."

4. Build on Early Wins

The managerial support that's so critical to innovation must be earned. Jablonskis says innovators must deliver early wins to attract attention and build excitement. "You cannot say, 'We'll do something great,' then not deliver," he says. "You have to explain the potential, and then you have to keep delivering success stories."

5. Engage With Skeptics

Early wins aren't products of luck; they're products of preparation, according to

Jablonskis, who says innovators should leverage skeptics to strengthen their ideas. “You have to get all your skeptics in place and ask, ‘Why not?’ And then you have to address every single one of their [concerns] . . . If you are able to close all the gaps, you will have the confidence you need to deliver.”

6. Practice Persistence

Change doesn’t happen quickly or easily. “You have to have the right mindset to realize that things will be hard when you’re doing them the first time,” Jablonskis says. “Instead of going back to the old workflow when things get difficult, you have to push through and keep the end goal in mind.”

How Innovation Led to a BIM Breakthrough

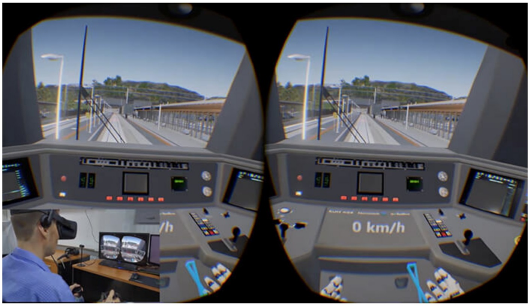
Innovation may start on paper, but real breakthroughs come when ideas are implemented in real life. The more complex the challenges, the more rewarding the results. After Norconsult resolved to push its own envelope and followed these six themes to change its internal culture, all it needed was the perfect project to apply what it had learned. In 2015, work commenced on Vamma 12, a hydropower facility expansion scheduled for completion in 2019 in Østfold, Norway.

Located on the Glomma river, the Vamma hydropower plant is the largest river hydropower plant in Norway, and it’s also among the oldest. Built in 1915, the century-old structure needed to be augmented; Norconsult was commissioned to plan and design two new hydropower turbines and a stand-alone hydropower station in the other side of the river to handle excessive water flow.

Although Norconsult was already using Revit to create digital models for internal use, its contracts and procedures dictated delivering paper drawings to the construction site, where the building trades updated them to reflect actual site conditions.

The process was inefficient and expensive—on a project as complex as Vamma 12, that wouldn’t do. Jablonskis’s plan was to use fully integrated Building Information Modeling (BIM) for the complicated project, which incorporated complex geometries and materials, million-part turbines, and a significant natural element, all on a massive scale. Leveraging internal software with the Dynamo extension for Revit, Norconsult became one of the first companies to enable an entirely paperless construction process, using digital models instead of paper drawings. Because the models can be updated and shared at all levels in real time, they enable greater transparency, accuracy, and coordination. The result is fewer errors, streamlined construction, and better control over costs.

For Jablonskis, the most exciting outcome is seeing its boundary-breaking practices adopted across the Norwegian building industry. Positive outcomes on Vamma 12 made evangelists of contractors and customers, who are adopting paperless construction on other projects. “We’re seeing more customers say, ‘This is awesome; we need more of this,’” Jablonskis says. “And that makes me feel like we’ve accomplished something.”



Vamma 12 was a catalyst for creativity within Norconsult. In 2015, the firm began designing an expansion of the Ulriken Tunnel, a 7.8-kilometer (4.8-mile) rail tunnel beneath Mount Ulriken in Bergen, Norway. To streamline regulatory approvals for the railway's signaling system, it used the integrated BIM models for the project to create a virtual-reality game experience for train operators to "drive" through the tunnel before it was built to help engineers optimize signal placement before construction.

Such innovations don't come easy. "Our industry is filled with people who have their own workflows based on traditional formulas and education," Jablonskis says. "They believe things are the way they are for a good reason, so there is not very much desire to change." With a lot of effort and a little soul searching, Norconsult has adeptly bridged the best of both worlds: The power of the mighty elephant, and the grace and agility of the gazelle.

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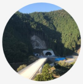

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