

DANE TECH

How Denmark is leading the next technology agenda

Stuart Crainer



The port of Odense in Denmark still bears the vestiges of its former life. Cobble streets, a crane to unload cargo, warehousing. It was once a major port. To expand its operations at the beginning of the nineteenth century 200 people worked for eight years digging out a five-kilometre canal to connect the port to Odense fjord. They used picks and shovels. Later the Odense Steel Shipyard built container ships for the AP Moller-Maersk Group, some of the largest in the world at the time.

The final ship was delivered in January 2012. The port at Odense still operates; a shadow of what it once was. It is a familiar story, but from the port's history emerged its current strength. The Odense Steel Shipyard was ahead of its time and used robots for welding, painting and other processes. Its owners, the Maersk family donated €10 million to the University of Southern Denmark to focus on robotics. That was the foundation for the Maersk McKinney Moeller Institute around which an entire cluster of robotics enterprises has emerged.

The Odense robotic cluster now numbers more than 120 companies with over 3,200 employees. The local airport is one of the few test centres in Europe for drones. Since 2015 €670 million has been invested in the cluster. *"There's a vitality here and frankly I didn't expect it,"* said Harvard Business School competitiveness guru Michael Porter when he visited the city.





Odense's success stories include Mobile Industrial Robots (MiR) which develops and markets autonomous mobile robots (AMRs). Founded in 2013, MiR's sales increased fivefold from 2015 to 2016, and revenue tripled from 2016 to 2017. In April 2018 the company was acquired by the American company Teradyne for €121 million (\$148 million) plus €101 million (\$124 million) if performance targets are met. Teradyne had previously purchased another star in Odense's robotic firmament, Universal Robots, for \$285 million in 2015.

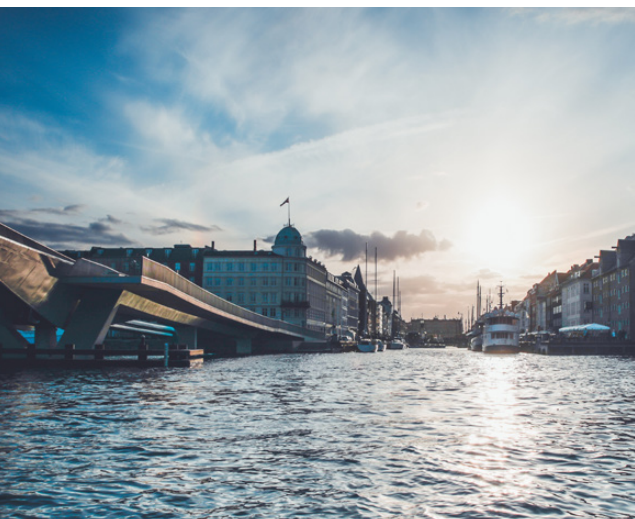
But, Denmark's high-tech economic re-birth is not down to a single isolated cluster. The nation has been rated as the easiest country to do business in Europe and the capital Copenhagen is making an increasingly persuasive claim to be a high-tech hub. It is home to more than 400 tech start-ups and the city's tech successes include Zendesk

extinct, Danish unicorns are growing in number. (According to one source, seven percent of global tech exits with a unicorn valuation originate in the Nordic countries.)

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And, equally interestingly, Denmark (pop. 5.7 million) is making a play for the high-tech moral high ground. In the summer of 2017, 150 technology professionals came together at Copenhagen's Techfestival. What united them was their deep-seated concern about the future of technology and its impact on humanity.

That meeting gave rise to what became known as the Copenhagen Letter on Technology. Its co-authors and prime movers included technology industry leaders not just from Denmark and Scandinavia, but from around the world. It was the start of a conversation about the values and principles that guide technology.



The message was blunt.

"It is time to take responsibility for the world we are creating. Time to put humans before business. Time to replace the empty rhetoric of 'building a better world' with a commitment to real action. It is time to organize, and to hold each other accountable."

(started in a Copenhagen loft in 2007; now San Francisco-based with revenues of \$430 million); Siteimprove (Summit Partners bought a \$55 million stake in this software-as-a-service company founded in 2003); Trustpilot (more than 500 employees and has raised \$118 million in funding); and Unity Technologies (launched in 2004, now San Francisco-based). Previously all but

When it was posted online more than 4,300 people signed the Copenhagen Letter. It marked the start of what is described as the Technology-for-Life movement. Most notably, it established that the future shape of technology and the expectations of the technology industries will be shaped worldwide rather than simply by Silicon Valley-based tech giants.



"It is our responsibility as technologists to remain vigilant," says Lars Thinggaard, CEO of Copenhagen-based Milestone Systems the global leader in video management software. "The Copenhagen Letter was our attempt to put some markers down for humanity. Technology can do wonderful things for mankind, but that comes at a price. There are ethical issues and questions that can no longer be ducked or fudged. We need an equivalent to a technology bill of rights, or a UN Compact."

The lure of the Danish

Thinggaard, quietly charismatic and persuasive in the Danish mould, makes the high-tech case for Denmark.

"We are building a tech community in Copenhagen and Denmark so that it will become a tech hub for Europe, a centre of excellence," says Thinggaard. ***"There have been some great success stories which started here. Often the founders and the companies have then moved. Now, we are seeing them returning. The realization is that this is a good place to do business and, more importantly, to live."***

As a demonstration of his commitment and a sign of a growing movement, Thinggaard is one of the founder investors in byFounders, an early stage venture fund investing in Nordic businesses. ByFounders has a €100 million fund and brings together more than 30 successful local entrepreneurs – people like Claus Moseholm from Goviral; Lisa Dubost (AirBnb and California Kitchen); Niklas Zeenstrom (Skype and Atomico); Louise Fritjofsson (Vint) and Carsten Gomard (Netcompany). Eric Lagier, managing partner of byFounders, identifies the clear demand: *"Zendesk, Skype and Unity never raised venture money in Denmark but made it big in the US."* The message is clear: imagine what Danish startups could do if there was a ready source of local funding.

For the moment at least, Denmark lags behind Sweden in terms of having VC funds and financial support for startups. This is changing and Lars Thinggaard makes clear that having the investment infrastructure is just one ingredient in making Denmark attractive to entrepreneurs and a high-tech workforce. *"The question I ask of myself, those I work with and organizations I am involved is what are they optimized for?"* says Thinggaard. *"There is much more to business and life than being optimized for profits."*

He suggests that the Danish lifestyle is increasingly attractive for would-be entrepreneurs and the tech-savvy workforce Denmark desperately needs to attract. OECD data puts Danish average wages at \$55,466 (against \$66,558 in the US); annual hours worked at 1,408 (1,780 in the US); and social spending at 28.7 percent of GDP (versus the American 19.3 percent). The high tax, high welfare Danish system is something which Thinggaard and others now see as an advantage, a differentiator compared to the American approach. Millennials and



Lars Thinggaard



Gen Z are more interested in minimal commuting, low crime, good schools, free healthcare and bike trails than working 16 hours every day and making a million in stock options.

The Danish collectivist rather than individualistic society is undoubtedly a stark counterpoint to Silicon Valley. A Dane working at a high-tech venture in California told me, *"Fear of failure is a huge issue in America. They are taught from an early age that there is a winner and a loser. For all the talk of tolerating failure, the reality is that Americans give it short shrift."* In response, Danes are likely to quote their homegrown philosopher Soren Kierkegaard: *"To dare is to risk losing your footing for a moment, not to dare is to risk losing yourself."*

Managed by Danes

Danish companies tend to have little hierarchy and relaxed informality comes naturally. Feedback is open, forthright and transparent. Politicking is frowned upon. Danish companies such as LEGO are held up as benchmarks of grown-up management. Indeed, the best performing CEO in the world as identified by the Harvard Business Review was twice Lars Rebien Sorensen, then CEO of the Danish pharma company Novo Nordisk.

"You have to have people see an opportunity and be excited by it," says Sorensen who preaches a downbeat, humble, commonsensical brand of leadership. ***"We are all the same. Sharing vulnerability makes the leader less lonely."***

There is also an inbuilt global perspective to Danish business. Typically, the first Danish fintech unicorn Tradeshift has proclaimed, *"We were global from day one."* The Danish domestic market is small so businesses of all sizes look outside from the very start of their commercial lives. Milestone Systems (now part of Canon) has 34 different nationalities at its Copenhagen base, 700 people in 25 countries and partners selling products in 140 countries. After starting life in 1998, within four years it had sold software to more than 2,000 customers in over 40 countries – all with a staff of 20. Over 95 percent of its revenue is international.

"As well as the strong start-up community, there's something very special here," says Milestone's Lars Thinggaard. *"Scandinavian management focuses on goals and values rather than the chain of command. It creates a work environment where young talented people thrive. We focus on achieving success alongside work-life balance. This unique approach creates some of the world's most motivated and creative workers and I believe it's the best way to lead the employees of the future."*

With its tech reputation increasingly burnished and entrepreneurial infrastructure becoming established, the new and pressing challenge for Denmark is to become an importer of talent rather than an exporter of smart business ideas.



Stuart Crainer

stuart.crainger@thinkers50.com

is co-founder of Thinkers50

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