

Annual Meeting
2019

A new strategic positioning for a competitive Medicon Valley

Bertrand Pedersen
Manager
PwC Luxembourg

medicon valley alliance

Creating Opportunities

A new strategic positioning for a competitive MVA

Presentation by **Bertrand Pedersen**
Manager, Economic Development & Innovation, PwC Luxembourg



Agenda

1. Most important factors for creating a strong and vital life science innovation system 04
2. Main challenges for European and Scandinavian innovation centers 09
3. Biggest assets and challenges for MVA 13
4. How to increase international competitiveness? 15
5. Adapting to new technologies in Scandinavia 22
6. Q&A 25

Continuous change drives business

Geopolitical uncertainty

- Brexit;
- Challenge within EU;
- Geopolitical tensions may lead to (more) trade restrictions and trade tariffs.

Digital Revolution

Automation costs are out-competing human efficiency, while delivering quality. Digital transformation is a survival requirement for established companies.

Free flow of people

- Rising urbanisation;
- Concentration of talent in smaller areas;
- Increasing mobility within the global village.

Changes in regulation

As new regulation come into effect, companies / banks have to allocate significant resources to compliance, with ripple effects on supply chain and business processes.

Data control

- Fight for data between «traditional» players and new data driven companies;
- A growing friction zone

Cyber threats

Threat of cyber attacks increases, with privacy implications, data insecurity & leakage of sensitive corporate data.

IP rights

- Aligned with the ever increasing internationalisation;
- Protecting research outcomes and copyrights.



Most important factors
for creating a strong and
vital life science
innovation system

Six critical success factors as essential “ingredients” of a world-class cluster



Scientific excellence

- Feed the innovation pipeline;
- Major driver to attract funding, both private and public;


The image shows a close-up of a pipette tip dispensing liquid onto a multi-well plate with various colored wells. The background is blurred, focusing on the pipette and the plate.



Access to funding

- Research funding remains a global challenge;
- Attract private & public investments;

The image features a blue-toned background with a glowing, futuristic cityscape or data visualization. In the foreground, there are several glass vials or test tubes, some containing liquids, and a blurred background of a building or structure.



Talented workforce

- Global competition for rare talents;
- Upskilling to ensure a pool of talented workforce;

The image shows a person's hands typing on a laptop keyboard. A cup of coffee is on the desk next to the laptop. The background is a wooden desk with various office supplies like a ruler and pens.

Six critical success factors as essential “ingredients” of a world-class cluster




Applied research

- Capacity to translate research into effective diagnostics and treatment;
- Develop projects to improve health outcomes and reduce care costs;



Critical mass

- Visionary public investment policy in transport and real estate supply;
- Partner with industry, universities, large research focused hospitals;



Be visible

- Communicate your vision, strategy and achievements;
- Collaborate at EU and international levels with reputable clusters;

An enabling trusted environment supported by a strong aligned vision of key public and private leaders



2

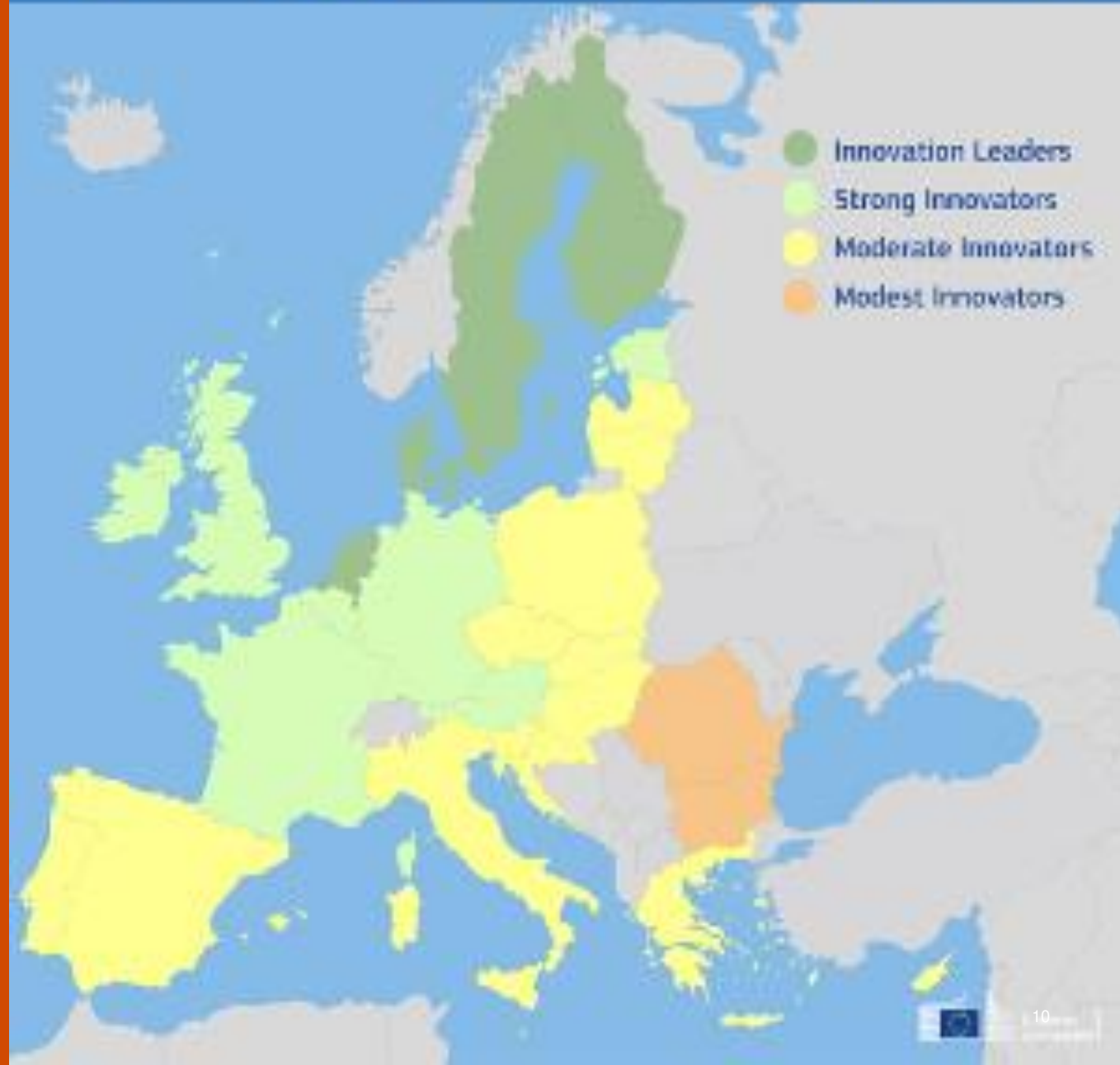
Main challenges for
European and Scandinavian
innovation centers



Sweden is the 2019
EU innovation
leader, followed by
Finland, Denmark

European Innovation Scoreboard 2019
European Commission

EUROPEAN INNOVATION SCOREBOARD 2019



A strong position, but challenges to remain future-proof

Fixing the skills gap to benefit from technology and data

28%

Difficulties in exploiting data

93% of industry CEOs place a high value on data about brand and reputation, yet only **28%** are furnished with adequate data.

2%

Slow speed of technology adoption

PwC estimates AI will contribute US\$15.7tn in global GDP gains by 2030.

78% of healthcare and pharma CEOs are enticed by AI's potential to transform the way they do business.

Yet a mere **2%** have implemented AI initiatives on a wide scale, and a third have no AI plans currently.

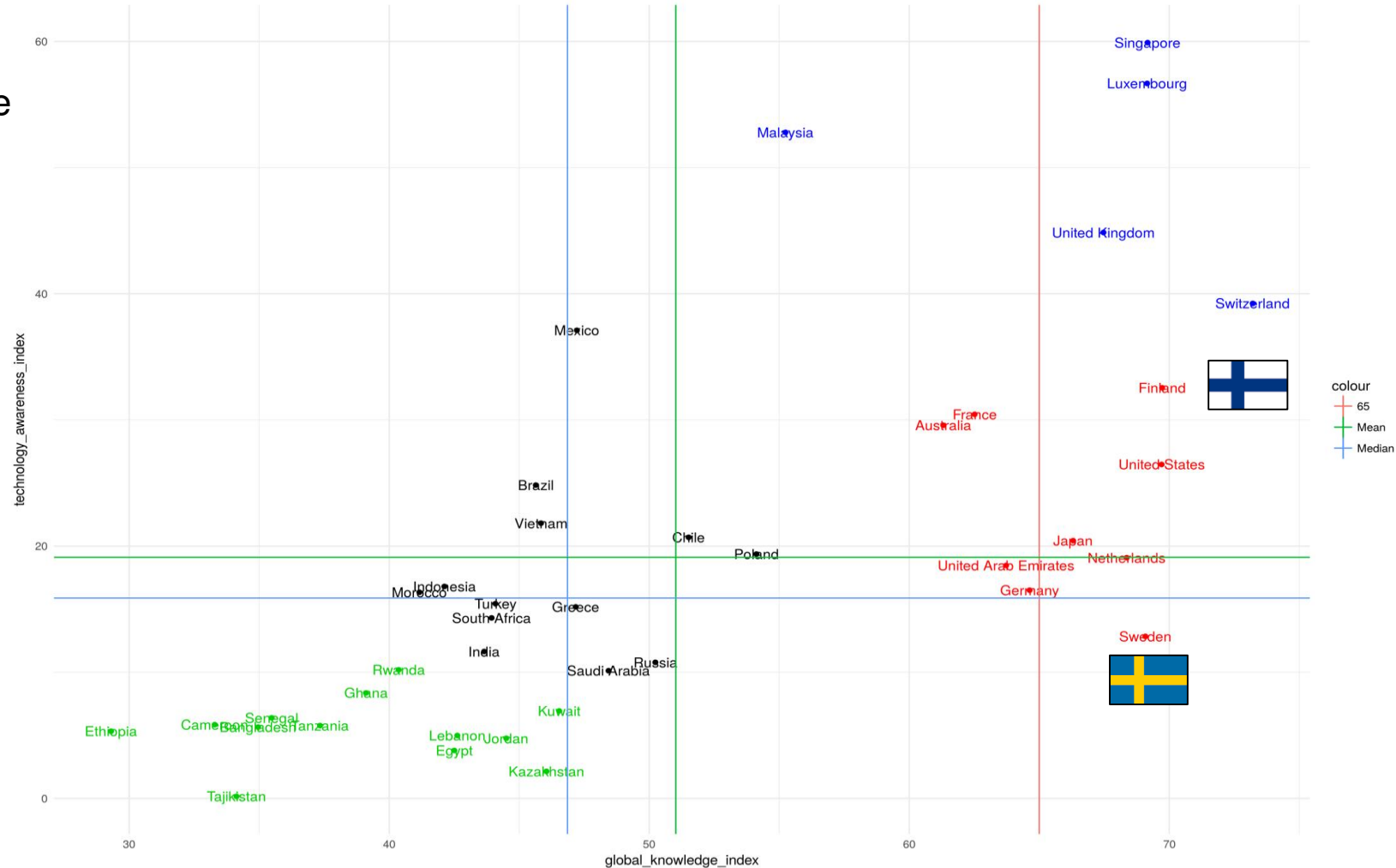
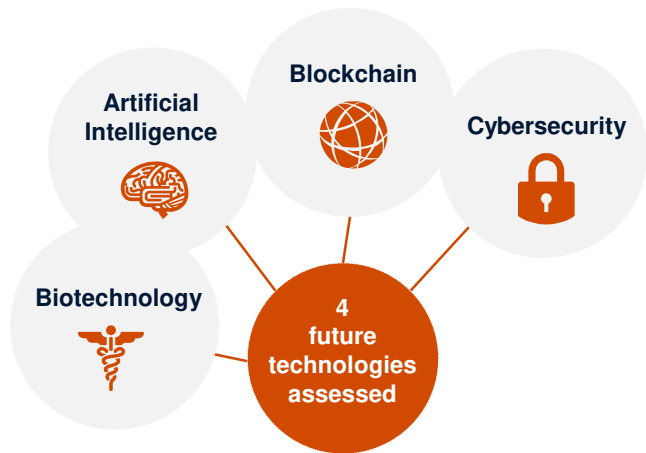
50%

Looking for solutions to cope with the shortage of skilled workforce

To close the skills gap, **nearly half** advocate primarily for retraining or upskilling their existing workforce to gain essential skills, while another quarter believe in the merits of establishing strong talent pipelines directly from educational institutions.

Scandinavian Countries: Strong knowledge foundation & the Future technology index

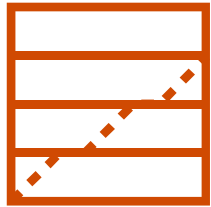
The future of knowledge Report 2019
by United Nations Development Programme



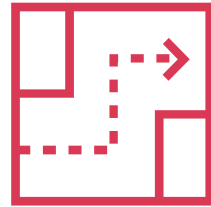
3

Biggest assets and
challenges for MVA

Massive assets under known and valorized but underskilled for the AI revolution



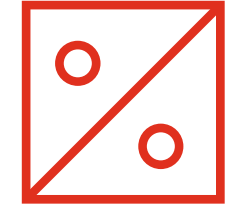
- **Binational cluster with scientific and industrial base**
- **New generation research institutes – Precision Medicine**
- **International reputation**



- **Data registries**
- **SMEs**
- **Good skills base for the traditional activities**



- **Skills Strategy 2030**
- **New relevant curriculums**
- **AI proof workforce**













- **Digital and health infrastructures**
- **More involvement in EU flagship projects (High performing computer, Blockchain & AI, Cybersecurity)**

4

How to increase
international
competitiveness?

Understand and adopt key strategic technological trends

Top 10 Strategic Technology Trends for 2020

People-Centric	Smart Spaces
 Hyperautomation	 Empowered Edge
 Multiexperience	 Distributed Cloud
 Democratization	 Autonomous Things
 Human Augmentation	 Practical Blockchain
 Transparency and Traceability	 AI Security

Source: Gartner
ID: 432920

Building on the EU 2030 Skills Strategy – Supporting the continued growth and competitiveness of Europe's industry



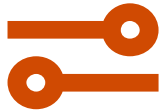
Mobilising all resources at the
local, regional, national and
EU level



Creating an opportunity for
everyone



Raise widespread momentum
by inspiring all key players



Collectively design and
implement powerful skill
strategies



Turn the potential challenges
brought by digital
transformation and industrial
modernisation into
opportunities

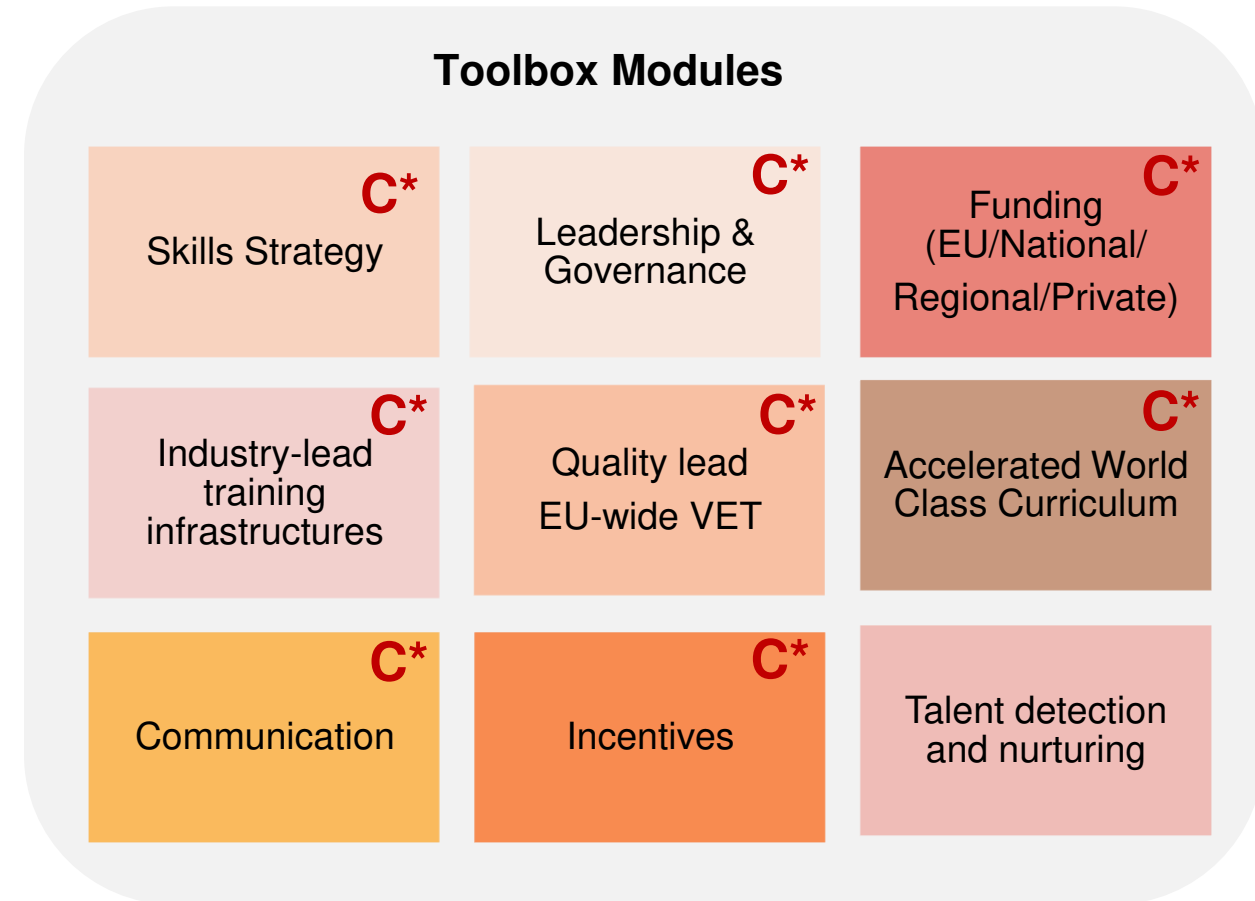


Foster the development of
skills for excellence, prosperity
and personal development

Building on the EU 2030 Skills Strategy – A Marshall Plan for Skills

9 modules to operationalise the Skills for industry strategy 2030:

- **Supporting Policy Makers at all levels** (i.e. EU, National, Regional, City) in setting-up skill strategies, policies and initiatives in upskilling the workforce of Europe to meet labour market needs while achieving smart industrial specialisation and digital transformation
- Provision of **concrete recommendations and guidance** specific to different stakeholder groups for achieving the implementation and operationalisation of the 'EU 2030 High-tech Skills Vision'



C*: Cluster Policies and Clusters



Finland Skills 2035

A National Forum for Skills Anticipation highlights changes in competences and skills that will be needed in 2035.

Important future skills include customer-oriented development of services and knowledge of sustainable development.

The labour market will require digital, information evaluation and problem-solving skills.

Key insights



New jobs will emerge particularly in the high-tech industry and in the marketing and processing of highly processed products.



The forecast also shows that the development of cost-efficiency and ecological sustainability will be equally important.



The ability to learn was found to be an important skill.



The importance of skills in customer-oriented development of services is crucial for the service sector

Major reform and adaptation of the VET system

A pilot project: Luxembourg Digital Skills Bridge

20 applications

11 participating companies

500 employees

Government provides
technical and financial
assistance



FINANCIAL TIMES

Europe's 100 digital champions

Explore the people and companies leading Europe's growth in five categories

- Leading individuals
- Corporate digital transformations
- New technologies and business models
- Technology training
- Using technology for social challenges



Raise awareness and **support companies** whose business activities will be significantly transformed by digital disruption.



Coach and upskill employees – whose jobs will be impacted by the digitalisation – and advise them on new placement opportunities (internal or external mobility).



Achieve a **65% internal mobility** rate.



Show the value of a **proactive and preventive upskilling approach** for companies, employees and society.



Develop an ecosystem of relevant assessment and upskilling solutions.



Amazon Pledges to Upskill 100.000 U.S. employees

Amazon's retraining programs will include:

- Amazon Technical Academy, which equips non-technical employees with the skills to transition into software engineering careers;
- Associate2Tech, which trains fulfillment center associates to move into technical roles;
- Machine Learning University, which offers employees with tech backgrounds the opportunity to access machine learning skills;
- Amazon Career Choice, a pre-paid tuition program designed to train fulfillment center associates in high-demand occupations of their choice;
- Amazon Apprenticeship, a Department of Labor certified program that offers paid intensive classroom training and on-the-job apprenticeships with Amazon; and
- AWS Training and Certification, which provide employees with courses to build practical AWS Cloud knowledge.

- “Our \$700 million commitment will help pilot, launch, and scale training programs to upskill employees in our corporate offices, tech hubs, fulfillment centers, retail stores, and transportation network, providing access to skills that will help them move into more highly skilled roles within or outside of Amazon.”



5

Adapting to new
technologies in
Scandinavia

Three new additional success factors

Digital Twins and Test-beds



- Data lake with high quality and clear governance;
- Privacy and ethics;



- High Performance Computing & Quantum computing;
- Distributed, accessible to SMEs;



- Enabling innovation;
- Building trust among all stakeholders.

Strong enabling services for SMEs



- New generation revised with today's challenges;
- Complicated growing markets.



- Financial support for upskilling solutions;
- Technical assistance for upskilling.



- Multi-competencies;
- Solving societal challenges;
- Create new local competences.



***“At the most basic level, an economy grows ...
whenever people take resources and rearrange them
in a way that makes them more valuable.”***

Source: Paul Romer, 2016. The deep structure of economic growth.

Bertrand Pedersen

Manager

T: +352 49 48 48 4365

M: +352 621 334 365

bertrand.pedersen@pwc.com



Thank you!

Questions?

