Innovative Sector Exchange Project

Interreg
EUROPEAN UNION

2 Seas Mers Zeeën

ISE

European Regional Development Fund

Innovation in SMEs

Innovation means creating new things, whether that's products, processes or ways of thinking. In business, it's about coming up with sustainable solutions that give you a competitive advantage. Innovation is not change for its own sake: it should always be driven by a real, identified need. At its simplest, that could be a demand from customers for a better experience; more widely, it could be a desire to create a more attractive, efficient and equitable society.

Innovation does not just 'happen', and cannot be left to just one person or team; it has to be part of a company's DNA, so that it becomes natural and instinctive for everyone, whatever their role. With their small numbers, close internal relationships and open structures, free of hierarchies and demarcation, SMEs are perfectly placed to achieve this.

Why Innovate?

When considering a new product or approach, the first question to ask yourself is: 'Will this benefit my customer?' Ideally, innovation should provide both direct and indirect benefits. For example, a new type of thinner optical lens could make spectacles lighter and more comfortable to wear (direct benefit) while also opening up new design possibilities, giving customers more choice of frame style to achieve their perfect look (indirect benefit).

The Innovation Process

While the idea behind an innovation may appear quickly and spontaneously, the innovation process itself can be quite complex, which can discourage SMEs from pursuing it. However, what SMEs may lack in skills, resources and funding, they generally make up for in flexibility, adaptability and ingenuity.

The key to any innovation project is to start with a solid plan. How the project proceeds will depend on the nature of the product or service you're creating, but as a guide, innovation generally follows a five-stage process.

The Five-Stage process of Innovation

1 Define your strategy
Set an overall direction and draw up a roadmap with specific operational objectives

2 Develop your ideas
Think creatively and collaboratively, bringing in different viewpoints and expertise, including those of your customers

3 Validate your ideas
Ensure they meet the identified need, and are technically feasible and financially viable

4 Validate the project
Testing and project management

5 Launch
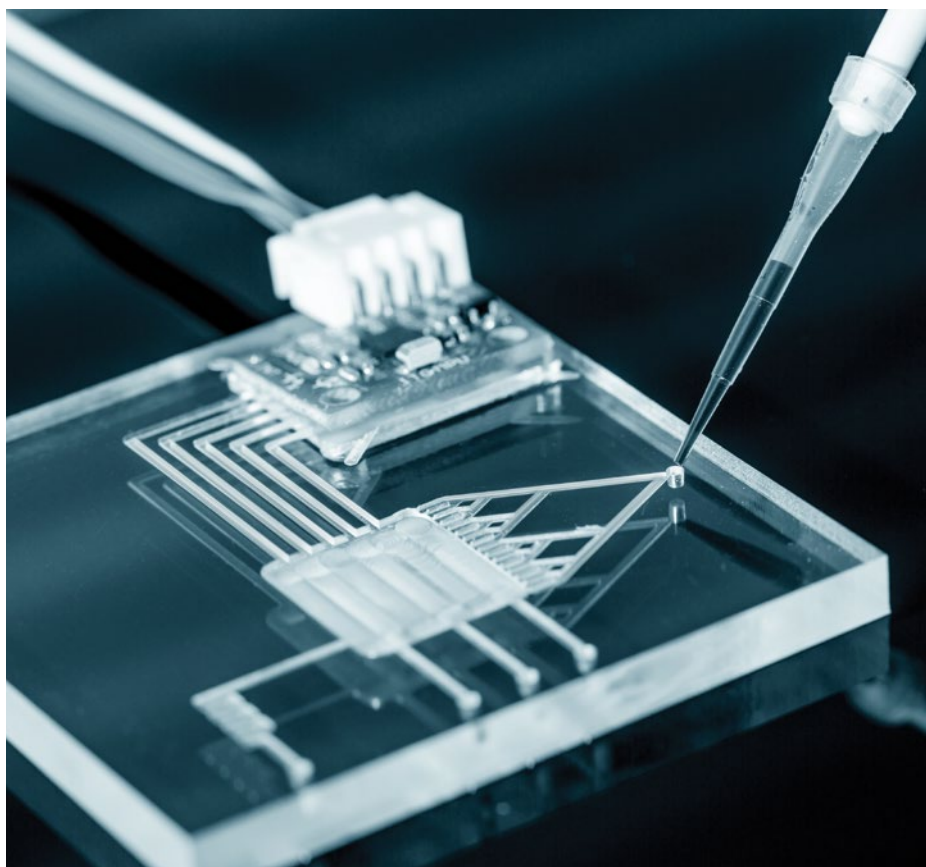Marketing and evaluation of your innovation

Innovation and disruption

Exponential thinking produces disruptors - innovations that create a new market all by themselves, eventually going on to replace established market-leading products and companies. The Apple iPhone is a classic example; but you don't have to be a tech company to be a disruptor. Whatever your field or sector, disruption is a tool for change and an agent for growth. It is the art of asking better questions, challenging conventional wisdom, and overturning assumptions and prejudices that get in the way of new possibilities and ideas.

As an SME, it means challenging yourself to explore how smart technologies could make your business more efficient. In manufacturing, there is huge potential in rapid prototyping, additive manufacturing and Industry 4.0; other disruptors like blockchain and artificial intelligence are transforming how businesses interact with customers and each other. These innovations are happening now: your choice is not whether to adopt them, but when. SMEs' scale and flexibility makes it easier for them to actively embrace disruption and discomfort, and allow technological changes to have a positive impact on their business.

Exponential Thinking

For SMEs, innovation is not confined to products and services: it also extends to developing new methods of doing business and thinking about the world. This is important because technology means change no longer occurs in a linear way, but exponentially. Companies that have seen a technology's potential and adopted it ahead of anyone else have experienced astonishing growth: think of Uber, Google, Amazon or Airbnb. Equally, those who saw it too late, or thought it would never take off, have suffered: Kodak collapsed after failing to understand the impact digital cameras would have on its photographic film business.

The ISE Project ran a series of workshops in West Flanders to introduce the concept of exponential thinking to SMEs and help them make the most of the opportunities it presents.

Early adopter companies that saw the potential of technology

Uber   Google

amazon   airbnb

Those who saw it too late, or thought it would never take off

Kodak   BLOCKBUSTER

BlackBerry   Polaroid

> "The ISE region is home to many innovative companies at the forefront of developing and adopting KETs – The ISE project has been extremely important in connecting these SMEs and broadening the region's base of KET skills, experience and applications"

Key Enabling Technologies (KETs)

KETs are a group of six technologies:

1 **Micro and nanoelectronics**
2 **Nanotechnology**
3 **Industrial biotechnology**
4 **Advanced materials**
5 **Photonics**
6 **Advanced manufacturing technologies**

They provide the basis for innovation in products across all industrial sectors. KETs are vital in modernising Europe's industrial base, driving the shift to a greener economy and underpinning entirely new industries.

EU support for KETs

The European Commission recognises that companies and regions who fully exploit these KETs will be at the forefront of creating advanced and sustainable economies in the future. It now has a strategy to support the development of KETs through investment, improving access to technology platforms, and support for trade, skills and large industrial projects. It also runs the KETs Observatory, an online monitoring tool providing EU, national and regional policy makers and business stakeholders with quantitative and qualitative information on KETs deployment within the EU and other world regions.

ISE and KETs

The ISE region is home to many innovative companies at the forefront of developing and adopting KETs. The ISE project has been extremely important in connecting these SMEs and broadening the region's base of KET skills, experience and applications.

Blockchain

What does blockchain do?

The best-known blockchain application is the cryptocurrency bitcoin, which was invented in 2008 to enable direct transactions between people without the need for 'trusted' third parties. Although bitcoin itself has had its problems and controversies, the underlying blockchain technology has proved highly robust.

In simple terms, a blockchain is a database, providing a global ledger of who owns what and when. Such registers usually rely on centralisation to ensure records cannot be changed by unauthorised people or means. However, this model is expensive to secure and requires trust in whoever is in charge: it also creates a single, central point of potential failure.

Blockchain eliminates these problems by using a decentralised network. This means the security cost is shared by people and companies worldwide; and instead of trusting an owner or manager, you trust a set of rules. To change a transaction without anyone noticing would require a blockchain with more computing power than the entire network combined. In the case of bitcoin, this would be practically impossible, since the network is more than 100,000 times stronger than the world's top 500 supercomputers combined!

> The Bitcoin network is more than 100,000 times stronger than the world's top 500 supercomputers combined

Everyday blockchain applications

Blockchain technology is relatively new and still evolving. However, there are already a number of ways in which SMEs can already put it to work in everyday business. These include:

APPLICATION	USES	EXAMPLE
Record keeping	◆ Create permanent records without relying on a trusted third party ◆ Use automation to make your record-keeping more efficient	Know-Your-Customer (KYC) processes
Transfer of value	◆ Enables low-cost, near real-time value transfer without an intermediary ◆ Transfer other assets beyond 'money'	Supply chain tracking
Smart contracts	◆ Program protocols to automatically verify conditions online and execute transfers themselves.	Renting, selling or sharing property (from a house or car to a bicycle...)
Decentralised applications (DApps)	◆ Open-source applications running on peer-to-peer (P2P) networks ◆ Includes user interface	Self-renting cars (La'Zooz)
Decentralised Autonomous Organisations (DAO)	◆ Governed by members through consensus (usually by voting) ◆ Management guided by rules written into a set of contracts executed by computer code	Contracting

Blockchain beyond bitcoin

But blockchain technology has applications far beyond digital money; it can also be used to transfer and record ownership of contracts, patents and other business assets. This potential expands further with the two types of blockchain available: public blockchains, which are completely open, so anyone can participate in the network without requiring identification or authentication; and private blockchains, which are limited to specific participants, making them ideal for corporations who want to work together more efficiently.

For SMEs, blockchain technology has many advantages, including:

- ◆ It's cheaper than traditional technology, because it uses a vast, decentralised system with no need for middlemen.
- ◆ All information has a time-stamp, so tampering is extremely difficult.
- ◆ The blockchain acts as a single, shared database that's always updated, so you don't need to create and maintain your own database, saving time and money.
- ◆ Everyone on the network can see what's on the blockchain (as along as they have a secure key) so it's completely transparent, eliminating potential disputes or disagreements.

East Flanders

East Flanders is positioning itself as a region 'where knowledge works', based on its highly developed logistics and thriving knowledge economy. Together, these strengths create a climate where companies and educational and research institutions can co-operate to inspire and enrich one another. The province's key sectors include biotech, automotive, food, steel, life sciences, creative industries and ICT; its capital, Ghent, is a vibrant city that provides the perfect environment for start-ups.

The regional Chamber of Commerce, Voka East-Flanders, supports these start-ups and SMEs through knowledge exchange and R&D centres, organises visits to innovative companies, and invites thought-leaders and CEOs from international firms to share their experience. It has also run sector-specific events focusing on the Smart Economy, or with presentations from leading industry companies. These events have included:

> ⬈ **The Province of East-Flanders has produced an online brochure about the region and its rapidly-expanding knowledge economy – click here to read it**

Food Sector

VProef! (above) is an innovative collaborative food platform, with a Research & Prototyping lab that initiates and co-creates the products of tomorrow. It is a test kitchen for new ideas and techniques, giving food start-ups the opportunity to grow faster.

Digital Sector

Based in Merelbeke, Viu More is an innovative company that works on future trends for industrial companies and training facilities using mobile devices, augmented reality, mixed reality and mobile apps.

Creative industries Sector

Ghent's Dok Noord former industrial site is an economic hotspot, home to digital, marketing and creative start-ups and international scale-ups such as Teamleader, Trendwolves and Story Me.

As well as being disruptive, these technologies are open and collaborative, based on shared rather than centralised ownership. This decentralised model eliminates many of the costs and formalities of traditional systems, which in turn can make them more accessible to SMEs. Blockchain, in particular, is ideal for small businesses, because it's cheap, simple, secure and transparent. No matter how big or small your company, blockchain technology could improve your business processes and networks and help address a range of challenges.

It's also important to remember that innovation is something all companies can and should be engaged with. It's as much an attitude as an activity. Innovation needs to be embedded throughout the business, at all levels and in all functions. For SMEs, it's about seeing and exploiting the potential of today's exponential technological developments, and making disruption an agent of positive change.

> **"**
> Innovative technologies like blockchain, artificial intelligence and Industry 4.0 are new, dynamic, rapidly evolving – and here to stay
> **"**

Summary

Disruptive, innovative technologies like blockchain, artificial intelligence and Industry 4.0 are new, dynamic, rapidly evolving – and definitely here to stay. For SMEs, the potential applications range from relatively simple functions such as record keeping to highly sophisticated commercial relationships like Decentralised Autonomous Organisations.

"

Innovation takes many forms, from a simple adjustment to an existing process or technique to wholesale change across your entire business

"

Your next move

- **Invest time** in considering the potential for introducing or extending innovation in your business. It's important to involve people from all levels and teams, to make innovation something everyone does and contributes to, rather than a discrete function confined to a single department or role.
- **Evaluate your current processes** critically, objectively and honestly. Where are you losing time and money, or not delivering the speed, quality and consistency your customers need? Are you doing things or using certain methods just because 'that's what we've always done'? How and where could new technology and/or thinking improve your efficiency and performance?

- **Examine your own thinking** and attitudes. Are you missing out on the opportunities presented by blockchain, for example, because you believe it's too difficult, complex, arcane or just 'not for you', or that your business is too small, low-tech or otherwise 'unsuitable'? Look at what's going on with an open mind and be prepared to be inspired and excited, even if the technology itself is unfamiliar.

- **Look at what your competitors are doing**. Is innovation giving them a competitive advantage over you and the rest of your market? Or can you see a weakness in their operation that you could exploit by changing your own methods and approach?

- **Think wider** and further than your own market, too. What innovations and developments are happening in other sectors and industries that could have applications in your business? The nature of disruptors is that they make waves that spread far beyond their original starting point: can you see potential in a new technology that its creators - and your competitors – have never even thought of?

- **Think long-term.** Technology is changing constantly and lifecycles are shortening. Working with partners in industrial and academic research will keep you up to date with developments and decide how future-proof an innovation will be for your business.

- **Reach out.** Innovators are generally only too pleased to explain their ideas and the potential applications, if you show interest and a willingness to learn. There's also a huge wealth of advice and information from local, regional national and European trade and commercial bodies. For example, if you think your business could benefit from KETs, the European Commission has produced a useful online summary of its policy, strategy and how it can help you introduce these innovative technologies and link up with partners across Europe.

> **Click here to view the European Commission's online summary of its policy, strategy and how it can help you**

- **Be part of the solution** and share your own innovations. Collaboration and competition need not be mutually exclusive: if your innovation could help your entire sector or region to grow and prosper, it will greatly multiply the benefits to your own business.

- Innovation takes many forms, from a simple adjustment to an existing process or technique to wholesale change across your entire business. It can also be quite daunting, especially if it involves investment or restructuring. You need to weigh the costs and risks against the benefits – and make sure everyone in the business is fully on board. And remember: everyone has to start somewhere, and there is no such thing as a silly question!

Interreg
EUROPEAN UNION
2 Seas Mers Zeeën

ISE
European Regional Development Fund

Partners

KENT INVICTA CHAMBER OF COMMERCE

voka Kamer van Koophandel West-Vlaanderen

aditec Pas-de-Calais
Centre Européen d'Entreprise et d'Innovation

POM

Kent County Council
kent.gov.uk

voka Kamer van Koophandel Oost-Vlaanderen

INNOVATIEHUIS
IPC ZUIDWEST-NEDERLAND

With support from

Met de steun van

Provincie West-Vlaanderen
Door mensen gedreven

provincie Oost-Vlaanderen

Provincie Noord-Brabant