

# A Solution to Europe's Funding Gap for Key Enabling Technologies

## Europe has invested in Key Enabling Technology (KET) research

European governments spend substantial resources on research. A focus of this public European R&D spending has been on KETs. The KETs are defined as photonics, industrial biotechnology, advanced materials, leading-edge manufacturing techniques, microelectronics, and nanotechnology<sup>1</sup>. Europe's Horizon 2020 program alone has targeted €8 billion annually for research in sectors which are enabled by these KETs.

## The Nordic region is the largest EU R&D spender per capita

Nordic countries spend more resources on R&D than other European Union countries.<sup>2</sup> The Euro-zone spends 1.9% of their GDP on R&D, while Denmark spends 2.6%, Iceland 3.0%, Finland 3.5% and Sweden 3.7%.

The majority of Nordic R&D comes from the private sector, but earlier-stage research comes from the public sector. Most public sector research takes place at the universities – from 26% of R&D expense in Finland to 45% in Denmark.

KET research is a major focus in the Northern European region. Germany, the UK and certain Nordic countries have extensive photonic programs. Sweden has a leading nanotechnology center in Lund. The Nordic countries and Germany have extensive clean tech programs.

## KET research is under-utilized

Today, KET research does not translate into a sustainable economic and employment benefit for Europe. In the 1980's and 1990's, European research still created substantial KET companies such as Axis and Micronic (Sweden), Trolltech (Norway), Q-Cells (Germany), ASML (Holland), and Bookham and ARM (UK). Since the 1990's, very few major KET-based companies have been spawned in Europe, despite the large R&D effort.

## Venture Funding Gap

Venture capitalists (VCs) have largely left the KET space, leaving a huge funding gap between university research and traditional venture funding. This venture funding gap has two root causes. First, a timing mismatch between the limited-life venture partnership structure and the longer gestation period required by most KET startups.

Secondly, most VCs have been focusing on social media and internet companies, which often require less cash and shorter time to market than KET projects. In 2014, Euro-zone venture funding was €4.7 billion, of which investment in KET-type companies was only just above €0.1 billion.<sup>3</sup> Thus, VCs often are unable and unwilling to fund these KET startups to commercial success.

## A new venture model to bridge this Funding Gap

Spirit Ventures is an evergreen KET fund focusing on Northern Europe. Spirit has created a new venture model to effectively support KETs:

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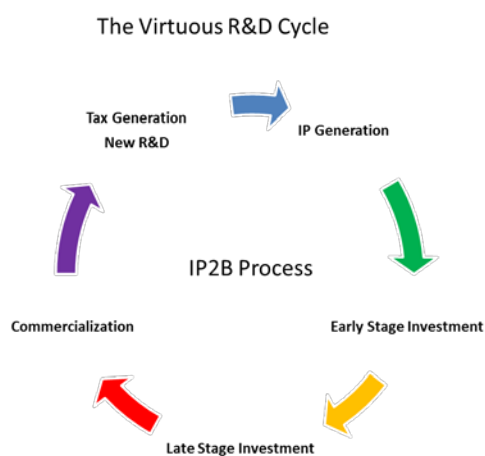
<sup>1</sup> KETs Communication (Com (2012) 341)

<sup>2</sup> Nordic Statistical Yearbook 2006

<sup>3</sup> Preqin data

<b>Traditional VC Model</b>	<b>New Model</b>
Maximize IRR in constrained time period	Maximize successful KET company creation without time constraints
Limited-life ten-year fund, driving shorter holding periods	Evergreen fund, matching portfolio company time horizon
Syndication is required with potential conflicting interests (e.g. varying fund sizes, end-of-life vs. beginning-of-life funds, etc.)	Ability to fund companies to success, and lead fund syndicates with aligned interests
New fundraising every few years	Self-sustaining fund after initial capital injection

This new model is customized to support the longer investing periods and higher capital requirements of KET companies. Spirit Ventures bridges the gap between university-and-government-institution KET research and broad commercialization of these KET technologies (which we refer to as IP2B – intellectual property-to-business).



Spirit enables IP2B by providing hands-on support to the best KET startups. Spirit will fund these companies through the long gestation period needed for them to attain wide-scale commercial success. Spirit will help solve today’s KET research dilemma, creating a virtuous cycle of more successful KET startups over time.

### Investment Strategy

Spirit takes a life-cycle investing approach. In the early stages, Spirit partners with existing university and government KET incubation centers such as ProNano in Sweden or Catapult in the UK, where Spirit will have offices with Local Community Technology Partners in Lund, Kista, Trondheim, Oulu, etc. to source the right deals and guide entrepreneurs. At these centers, Spirit’s portfolio companies will have access to “fab-light” pilot production facilities, where its startups can convert their IP into scalable prototypes. Spirit then funds the best of its early-stage investments all the way to commercialization. In addition, Spirit invests in more developed KET companies that require funding to bring the companies to commercial success.

### Summary

Spirit Ventures is a northern Europe fund transforming Key Enabling Technologies into large established companies. Spirit is seeking a €500M commitment to create this self-sustaining evergreen fund, targeting participating northern European member states, EU government, and private sources as investors.

Spirit targets the creation of successful KET businesses, leveraging the existing EU public R&D spending to have a much greater economic and employment impact. Northern Europe can achieve this substantial economic and social benefit with only 1% of the public money targeted for KETs over the next five years.