Evaluation of Start-Up Company Programmes in Tekes, Finland

Jari Hyvärinen, PhD, Tekes

AEA Conference
Denver 18th October 2014
Goal

My paper concerns several questions:

1. Principles of Tekes Young Innovative Company (YIC) funding
2. What are results and outcomes of the funding?
3. Examples of funding
Introduction

- Tekes is the most important publicly funded expert organisation for financing research, development and innovation in Finland.
- Tekes promotes a broad-based view on innovation: besides funding technological breakthroughs, Tekes emphasises the significance of service-related, design, business, and social innovations.
- Tekes finances annually around 1,800 business research and development projects, and public research projects at universities, research institutes and universities of applied sciences.

Results of projects completed in 2013
- 1,270 products, services or processes
- 1,030 patents or patent applications
- 840 academic theses
Tekes R&D funding in 2013

- Companies: €349 million (60%)
- Research organisations: €228 million (40%)

Total €557 million

- 67% of company funding to SMEs
- 58 days to process a company application

Tekes provided a total funding of EUR 45 million for Young, Innovative Companies (YIC) that were seeking rapid growth.

R&D Funding includes €13 million from the EU Structural Funds.
### Innovation funding with proven impact

<table>
<thead>
<tr>
<th>Tekes has partly funded</th>
<th>In SMEs funded by Tekes, the annual growth of exports was</th>
<th>Projects that were completed in 2012 produced</th>
<th>In SMEs funded by Tekes, the increase of jobs was</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>65%</strong> of well-known Finnish innovations</td>
<td><strong>20%</strong> in 2009-2012</td>
<td><strong>840</strong> academic theses</td>
<td><strong>17%</strong> units faster than in other SMEs in 2009-2012</td>
</tr>
<tr>
<td>Projects that were completed in 2013 generated</td>
<td>SMEs expect projects in 2013 to produce</td>
<td>For every euro invested by Tekes, companies increase their own R&amp;D expenditure by</td>
<td>In SMEs funded by Tekes, the increase of turnover was</td>
</tr>
<tr>
<td><strong>1,270</strong> products, services or processes</td>
<td><strong>7.7</strong> billion euros in turnover during the target year</td>
<td><strong>2 euros</strong></td>
<td><strong>20%</strong> units faster than in other SMEs in 2009-2012</td>
</tr>
<tr>
<td>9 of the ten fastest-growing technology companies in Finland are Tekes customers</td>
<td></td>
<td></td>
<td>Projects that were completed in 2013 resulted in</td>
</tr>
<tr>
<td></td>
<td><strong>over 80%</strong></td>
<td>The annual growth of turnover in young innovative companies funded by Tekes was</td>
<td><strong>1,030</strong> patents or patent applications</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>150%</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DM 1231571 02-2014</td>
</tr>
</tbody>
</table>
Why is it important that we have young innovative companies?

- Fresh ideas and innovations
- Better dynamics and competition in business life
- Faster employment and incentives to work
- Various co-operation mechanisms between start-up and other firms
Venture capital investments as a percentage of GDP in 2013

Source: OECD, 2014
### YOUNG FIRMS AT THE HEART OF INNOVATION

**Patenting activity of young (<5 years) firms, 2005-07**
PCT patent filings by young firms as a percentage of filings by firms in each country

<table>
<thead>
<tr>
<th>Country</th>
<th>Share of patents filed by firms under 5 years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>33.5</td>
</tr>
<tr>
<td>Germany</td>
<td>13.5</td>
</tr>
<tr>
<td>France</td>
<td>4.5</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4.2</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>3.0</td>
</tr>
<tr>
<td>Sweden</td>
<td>2.8</td>
</tr>
<tr>
<td>Finland</td>
<td>1.6</td>
</tr>
<tr>
<td>Italy</td>
<td>1.6</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.9</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.7</td>
</tr>
<tr>
<td>Austria</td>
<td>0.7</td>
</tr>
<tr>
<td>Spain</td>
<td>0.4</td>
</tr>
<tr>
<td>Norway</td>
<td>0.3</td>
</tr>
</tbody>
</table>


**Note:** Data refers to patent applications filed under the Patent Co-operation Treaty (PCT) with a priority in 2005-07. Patent counts are based on the country of residence of the applicants. The share of young firms is derived from the set of patent applicants successfully matched with business register data.
Renewing and Growth

Tekes emphasizes generation of new growth companies in its funding

Generation of new emerging companies
- Public research and commercialisation of results
- Examination of patent portfolios of large companies
- Fast, small funding decisions to refine business ideas

Funding of fast growing companies
- Special funding for Young Innovative Companies (YIC)
- VIGO-accelerators for companies

Funding of moderately growing companies
- Tekes funding for R&D and innovation

Total 133 million euros in 2013, of which 45 million euros to young innovative companies.
What is emphasized in the application process?

**Best choice**

- **Solution to an existing problem**
  - Company has a solution to a defined problem creating value for the customer

- **Top Team**
  - Top competences and a plan to fill the gaps

- **Large market potential and a pre-defined target market area**
  - Clear business model

- **Validated Business Model**
  - Business model is validated with paying customers

- **Interesting investment target**

**Best stage**

- LAUNCH
- DEVELOPMENT AND PRODUCTIZATION
- GROWTH INTERNATIONALISATION

---

Tekes Young Innovative Company (YIC) Funding
What is a typical YIC company like?

**Credible innovative business activities**
- Comprehensive business plan
- Owns IPRs

**Company age typically 3 to 5 years**

**Team & board of advisors**
- Number of personnel typically > 7
- Average 2 to 3 advisors
- Management’s strong international experience

**Attractive investment target in the private market**
- 70 % of the companies with more than EUR 100k worth of venture capital
- 55 % of the companies have foreign investors
- Investments to own capital average EUR 700,000 (median EUR 250,000)

**Turnover**
- Average turnover EUR 350,000
- 50 % have already international business

**Proven earnings logic**
- Several customers and proven traction

**Aims at significant international business**
- Estimated growth in turnover in 3 years is 12 M€

**Other:**
- 60 % of the companies operates in B2B market
- 65 % has previous experience of entrepreneurship

*Source: 2012-2013 YIC-companies*
YIC-funded companies

PLANNING FOR INTERNATIONAL GROWTH

Evaluation panel
Evaluation by Tekes

Interim evaluation

A maximum of EUR 750,000, (option +25% in areas eligible for regional aid), 75% grant

A maximum of EUR 250,000, (option +25% in areas eligible for regional aid), 75% grant

RAPID GROWTH
Phase 2

PRECONDITIONS FOR GROWTH
Phase 1

PLANNING FOR INTERNATIONAL GROWTH

• Cumulative number 06/2014: 221 companies
• 22% of the companies are participating in Vigo-acceleration programme
Renewing and Growth
Tekes customers are successful

10 fastest growing companies in Finland in 2013, 9 of which are Tekes customers (growth in 5 years, %):
- **iLOQ** (7 379 %)
- **Multi Touch** (4 024 %)
- **Dream Broker Oy** (2 231 %)
- **Ecolane Finland** (2 203 %)
- **Alekstra** (2 069 %)
- **SLM Finland** (1 832 %)
- **Solinor** (1 595 %)
- **Valopaa** (1 516 %)
- **Paytrail** (1 464 %)
- **Eniram Ltd** (1 514 %)

Global Top 300 i.e. Finnish companies on the list of most innovative technology companies, all Tekes customers:
- **Epicrystals**
- **Hyperln**
- **Kiosked**
- **Miradore**
- **Modz**
- **Ovelin**
- **Relaxbirth**
- **Senseg**
- **ThingLink**
- **TOP 100:ssa**
- **Kiosked**
- **Relaxbirth**

Finnish companies on the list of European hottest start-up -companies, all financed by Tekes:
- **Ovelin**
- **Kiosked**
- **Tinkercad**
- **Audiodraft**
- **Grand Cru**
- **Mendor**
- **Powerkiss**
- **Steam Republic**
- **Thirdpresence**
- **Grey Area**
Renewing and Turnover
Young innovative companies (YIC) funded by Tekes have grown despite the recession

Average turnover in thousand euros

YIC companies funded by Tekes, 33 companies. Reference group: companies established in 2003 or later, not part of Vigo, YIC or Growth Channel groups, sales less than EUR 2.5 million in 2006

Source: Rannikko, 2012
YIC Program Logic Model

**PURPOSE OR SITUATION**
- Provide support for young innovative companies to help accomplish rapid international growth
- Create viable new ventures
- Increase the competitiveness and productivity of the Finnish economy

**INPUTS**
- €102.7 million in funding

**OUTPUTS**
- Activities
  - Funding provided directly to companies
  - Mentoring by Tekes advisor
  - Participating in other Tekes programs (e.g., Global Access Program)
  - Assistance with either public or private investors
  - Assistance with investor presentations
  - Contacts with business advisors, accelerators, or Board of Director’s members

**OUTCOMES - IMPACT**
- Direct
  - Strategic knowledge
  - Business planning
  - Linkages – networks and NIY participants
  - Leadership or governance
  - Acquisition of additional capital
  - Selling into new markets
- Indirect
  - Faster time to market
  - New international customers
  - Increased export sales
  - Increased annual revenues
  - Increased employment
  - Increased investment
- Ultimate
  - Sustainable wealth and jobs
  - Environmental and health care improvements
  - Increased community, regional, national economic and social wellness

Source: The Evidence Network
Result and Impacts of the YIC Funding

The Evidence Network has conducted an in-depth examination of the impact of the NIY Program on its participant companies. Several conclusions stand out:

1. On the impact of the NIY Program on companies’ performance: The NIY Program is achieving significant impact on companies’ acquisition of new international customers, increases in employment, and time to market. Companies that used the non-financial NIY support initiatives to a greater degree attribute the greatest impact on company performance to the NIY Program.

2. On the impact of the NIY Program on companies’ resources and capabilities: The NIY Program is achieving significant impact on strengthening the resources and capabilities of companies, in particular, improvements to their leadership or governance, business planning, selling into new markets, and strategic knowledge capabilities. The average direct impacts of the NIY Program on companies’ resources and capabilities increase with the degree of use of non-financial support provided by the Program.
3. On the predictors of impact on companies’ performance: The total NIY Program funding provided to companies is the best predictor of impact on company performance related to growth. The positive impacts of the NIY Program on companies’ resources and capabilities, in particular, improvements to companies’ strategic business knowledge and linkages, and improvements to their international marketing capabilities are also significant predictors of impact on improved company performance related to growth.

The NIY Program’s direct impact on the financing capabilities of companies is the best predictor of its indirect impact on companies’ ability to raise additional capital from private and public sources.

4. Economic Impact of the NIY Program: To date, for the 108 companies that participated in the impact assessment survey, the NIY Program has contributed a total of approximately €99.1 million to companies’ revenues, and 1,172 jobs, accounting for more than half of the total present revenues and employment of the companies. Ninety-three percent of companies report a positive impact attributed to the NIY Program on revenue growth or employment increases.
Total Impact of the YIC Program on Company Employment

Impact on Employment

Company Identifier

Impact on Employment

Total impact on Employment = \sum (Number of employees \times \text{Change in employment} \times \text{Impact on change in employment})

10/22/14
Summary of Results

The growth in turnover for young innovative companies is five times that of comparable companies.

Annual growth of Tekes-financed companies was an average 150 percent in 2006-2010.

- According to the companies, the financing had a significant impact on their resources and international competitiveness.
- The impact of Tekes financing was particularly positive:
  - on the planning of business activities, international sales, strategy, and management
  - on turnover growth in growth companies, creation of international customer relations, creation of jobs, and growth in exports
  - on the ability of young companies to collect investments from the private market
- Tekes has financed 198 companies with a total of € 127 million in 2007-2013.

Source: The Evidence Network, Canada
Development path of the gaming sector reflects rapid growth and success of the field in Finland

- The gaming sector has risen to be an internationally renowned success. The field is also a good example of renewal and structural change in the business world.
- Total turnover of the Finnish gaming industry exceeded €300 million in 2012, and the billion-euro mark could be broken in 2013.
- Success in the gaming field is based on hit games, but there is systematic and persevering work in the background.
- Factors behind the success include technological know-how, a solid foundation of hobbyists, and events such as the Assembly, close-knit networks and a culture of cooperation, and Tekes financing that attracts capital investment.
- The development path ordered by Tekes is ascertaining the emergence and development of the gaming field from the 1980s to the present day.
Extremely profitable mobile games

**Supercell Ltd.**
- Two globally top-grossing App Store games (Hay Day, Clash of Clans)
- FIGMA Game of the Year 2012 Award (Clash of Clans)
- One of the hottest European start-ups 2011 (Wired)
- Daily turnover nearly 1 million euros
- Private investments from Accel Partners and top game industry names: 12 million USD

**Tekes’ role**
- Funding for young innovative growth companies (YIC)
  - To pursue rapid growth and expansion to international markets
- Part of the Vigo accelerator programme

[www.supercell.net](http://www.supercell.net)
Ultra fast translations to over 60 languages

Transfluent Ltd.

- Network of 15,000 professional translators around the world
- Customers include global companies operating strongly in social media
- Partnerships with giants like WordPress blog platform, Unity game engine, Magento e-commerce platform
- Main operations in Finland, office in Silicon Valley
- Top 20 most promising start-ups 2013 (Talouselämä)
- Private investments: 0.8 million euros

Tekes’ role

- Funding for young innovative growth companies (YIC)
  - Accelerating growth and access to international markets
- R&D&I funding

www.transfluent.com
World’s first robotic waste sorting system

**ZenRobotics Ltd.**

- Reclaiming valuable raw materials from waste with the help of advanced machine learning technology
- Huge global markets
- European Environmental Press Gold Award Winner 2012
- Private investments: 13 million euros

**Tekes’ role**

- Extremely important since the beginning
- Funding for young innovative growth companies
  - To accelerate global business
- R&D&I funding in Sustainable Community programme
- Part of the Vigo accelerator program

[www.zenrobotics.com](http://www.zenrobotics.com)
Finnish wellbeing relies on the economic growth created by innovations

Innovation activity is a key driver of economic growth and enables the funding of welfare services in the long term.

Thank you!

Jari Hyvarinen
Tekes
Jari.hyvarinen@tekes.fi