

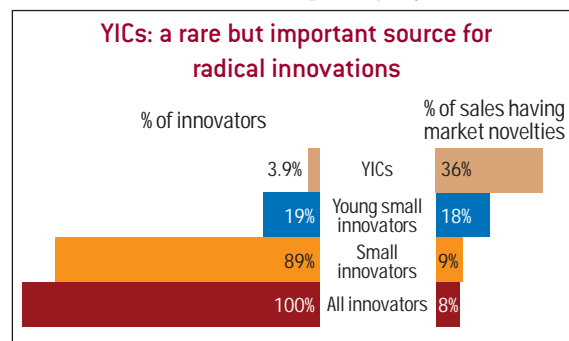
# A LIFELINE FOR EUROPE'S YOUNG RADICAL INNOVATORS

**SUMMARY** Europe's young, dynamic, high-growth firms are in a precarious position, despite their pivotal role in bringing radically new innovations to market. EU start-ups face higher entry and growth barriers than their counterparts in the United States, generating 11.2% of innovative companies (YICs) than the US. Those that Europe does have are less R&D intensive. The main barriers to innovation are access to finance and the difficulty that YICs have in accruing the benefits from their innovations. In the current crisis, YICs must also adapt to a double whammy of credit that is even more constrained than usual, and higher bankruptcy risk. Policymakers must provide support for these firms, and they must get their policy interventions right.

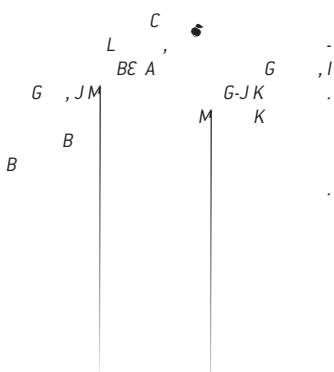
## POLICY CHALLENGE

EU member state recovery programmes pay most attention to large, long-established firms, and all but ignore young, radical innovators. This short-term approach jeopardises the long-term benefits that breakthrough innovations can bring. An EU YIC programme should first and foremost deal with financial constraints, and should reward the risk-taking inherent in radical innovation. Such a programme could be targeted to particular policy areas – especially environmental technology development – would relate to the pre-commercialisation stage of projects, would involve phased financing, and

would not include the typical EU stipulation that projects should involve cross-border collaboration. However, project applications and evaluation should be pooled at EU level to ensure highest standards of excellence in the selection procedure.



Source: author's calculations.

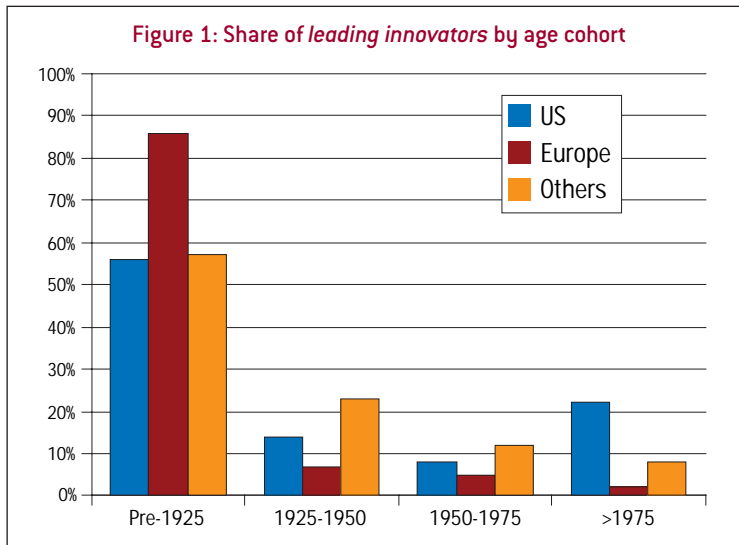


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**Table 1**  
**Contribution of young leading innovators to total leading R&D and sales: US and Europe**

	R&D	Sales
US	28%	15%
Europe	2%	6%
Total	16%	12%

Source: author's calculations. Note: The total is the sum of R&D and sales of all 226 leading innovators in the matched sample. Young is defined as founded after 1950. The US has 24 young leading innovators, Europe seven.



Source: author's calculations. Note: Figure based on a sample of 226 companies, obtained from matching firms in the FT Global 500 from 2007 with the 2007 EC-IPTS Top 1000 EU and non-EU R&D scoreboard companies. Leading innovators are thus defined both by their market capitalisation and R&D expenditures. The US has 80 companies in this sample, Europe 86 and other countries 60.

<sup>1</sup> With thanks to the ZEW (Zentrum für Europäische Wirtschaftsforschung), Mannheim, for supplying access to the firm-level data. Full analysis of the data is reported in Schneider and Veugelers (2008).

**Table 2**  
**Major innovations by small US firms in the twentieth century**

Air conditioning	High-resolution CAT scanner	Optical scanner
Biomagnetic imaging	Hydraulic brake	Pacemaker
Polaroid camera	Kidney stone laser	Quick-frozen food
Electronic spreadsheet	Microprocessor	Soft contact lenses
Heat sensor	Magnetic resonance scanner	Two-armed mobile robot

Source: Own selection from Baumol (2002).

have a severe indirect impact on an economy's overall innovative and growth performance.

One barrier to innovation is **access to finance** (Hall, 2005). Reputation and collateral are important in accessing external finance and consequently young innovators are more likely to experience constraints than established firms, particularly if these young firms propose more radical investment projects.

Moreover, young radical innovators will be affected disproportionately by a financial crisis. Innovating companies that rely on external financing, and who find it more difficult to access external finance because of their risk profile, will be particularly hard hit by malfunctioning financial markets. Furthermore, in a recession with high bankruptcy risks, the negative effect of credit constraints on R&D investment is exacerbated for firms at higher risk of bankruptcy (Aghion, 2007). As a consequence, in the current combined financial and real economy crisis, young firms with radical innovative projects are threatened by the double whammy of constrained credit and higher bankruptcy risk, reducing the chances of new radical innovations that will lay the foundations for future growth seeing the light of day. All this calls for greater-than-usual government

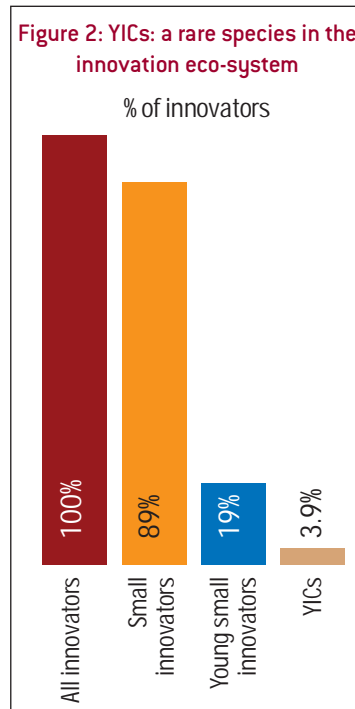
support for young radical innovators.

It is one thing to make a case for policymakers to pay particular attention to this category of business. It is another thing to get the policy intervention right. We still do not know enough to support evidence-based policy design for young radical innovators in the EU. Are young innovative companies indeed the most promising firms in terms of radical innovations in the EU? What obstructions do these companies face? Can policy intervention make a difference?

This policy brief brings together arguments from analysis and proposes general and specific policy recommendations. Empirical evidence from the 2005 wave of the German Community Innovation Survey (CIS 4) is used<sup>1</sup>. This is a regular pan-European Eurostat survey on the innovative strategies of firms. We use the German survey, as this includes information on the age of the firms.

**ARE YOUNG RADICAL INNOVATORS SPECIAL?**

If young radical innovators deserve policy attention, it is not because they represent a large



Source: author's calculations.

<sup>2</sup> The label YIC (young innovative company) has become fairly established. It was introduced by a biotech consortium proposing a Europe-wide tax status for young innovative companies ([www.yicstatus.com](http://www.yicstatus.com)). France and Belgium have already adopted such a status, but using different criteria (both use the 15 percent R&D to sales ratio, but France has an age limit of eight years, Belgium 10 years).

<sup>3</sup> EU state aid rules define Young Innovative Enterprises' (YIEs) as being less than six years old, externally 'certified' on the basis of a business plan as being capable of developing products or processes that are technologically new or substantially improved, and that are at risk of technological or commercial failure, or have R&D intensity of at least 15 percent in the last three years or currently (for start-ups). See [www.ec.europa.eu/competition/state\\_aid/legislation/horizontal.html](http://www.ec.europa.eu/competition/state_aid/legislation/horizontal.html)

<sup>4</sup> Similar results are found in the Flemish CIS sample.



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Source: Schneider and Veugelers (2008). Note: \*\*\* represent significantly different means between YICs and other innovators at one p

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must be carefully designed in order to be effective<sup>9</sup>.

### A CALL FOR POLICY SUPPORT FOR EU YOUNG RADICAL INNOVATORS

The current economic crisis calls for a swift reaction to **support young, small radical innovators**. EU member state recovery programmes pay most attention to large incumbent firms, ignoring the young radical innovators, with far less sizeable impact. This approach focuses on the shorfoe

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<sup>9</sup> The need for policy design to account for the specifics of YICs is also suggested by Colombo (2008). They found that new technology-based firms in Italy benefit more (in terms of firm growth) than mature ones from financial support if public funds are allocated through a selective evaluation process.

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would come close to three percent of total EU budget spending on research and innovation.

The **programme** should be designed as a pilot, **evaluated** and adjusted or terminated if unsuccessful.

Arguments for an EU-level approach:

- Economies of scale in the selection procedure, and competition among applicants at EU level guarantees high-quality projects (cf the European Research Council).