Global Innovation Networks: What are they and where can we find them?

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Outline

- What are Global Innovation Networks?
- The dominance of MNCs in:
  - The increasing globalisation of innovation
  - The increasing networkedness of innovation
- Reasons to expect MNCs to dominate GINs – or not
- What the evidence suggests
- **So what?**

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A GIN definition

- A globally organized network of interconnected and integrated functions and operations by firms and non-firm organizations engaged in the development or diffusion of innovations

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The globalisation of innovation

- Innovation is driven by:
  - Increases in **technological** advances
  - More demanding **customers**
- BUT:
  - **Skilled** resources are **scarce**
  - More and more **specialised** knowledge is needed
- This has lead to firms going global – first for production and now innovation
- The **established MNCs** with their extensive reach have been **pioneering** this

G + I + N = GIN?

- Do GINs represent the deepening of existing trends – where established MNCs continue to drive the evolution into GINs?

AND/OR

- Do GINs represent a new form of organisation where established MNCs may not be lead players?

Innovative dataset

- GINs have been presumed to be a phenomenon of MNCs from the advanced economies. We challenge that and poll firms:
  - 5 employees and more
  - Stand-alone as well as MNC
  - From both some of the wealthiest countries in the world, and middle income countries

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Methodology - survey

Countries	ICT	Auto	Agro	TOTAL
Brazil		69 (25.9%)		
China	243 (2.7%)			
India	324 (25.2%)			
South Africa			84 (16.9%)	
TOTAL emerging markets	**567**	**69**	**84**	**720**
Denmark			49 (23.3%)	
Estonia	17 (14%)			
Germany		53 (4.7%)		
Norway	181 (11.9%)			
Sweden	171 (10.3%)	24 (14.3%)		
TOTAL European countries	**369**	**77**	**49**	**495**
TOTAL ALL	**936**	**146**	**133**	**1215**

Scoring system for data

- For the three concepts (Global, Innovative and Networked), relevant questions in the survey were identified
- Each instance was scored relative to the other instances in the dataset
  - A formula was specified to give each instance in the dataset a continuous value greater than or equal to 0
  - This value was divided by the maximum value in the dataset, so that each instance had a continuous score between 0 and 1

Data analysis

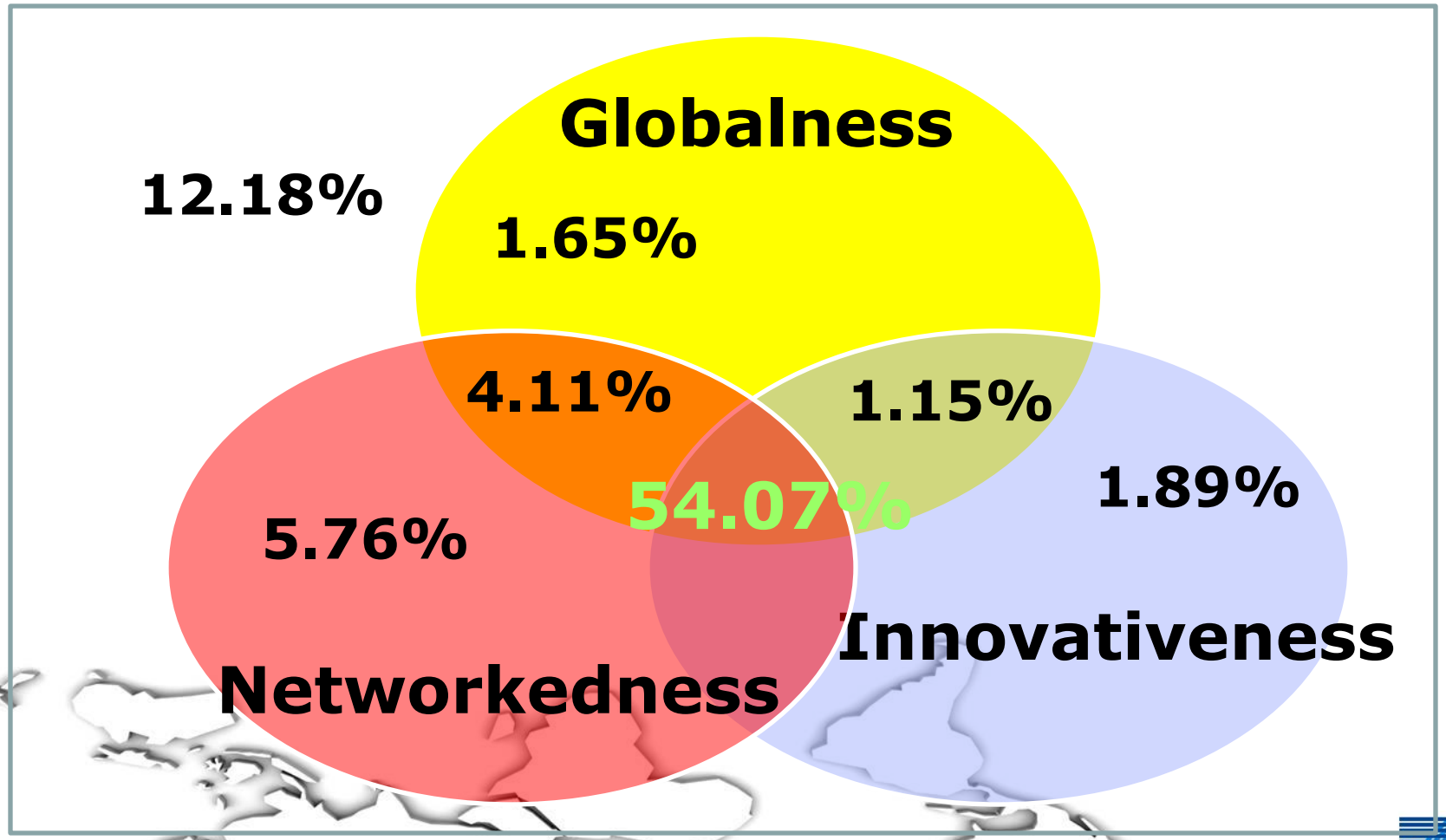
- Scores were displayed on a scatter plot
- The cut-off point between categories was determined with a combination of:
  - Cluster analysis
  - Inspection of the scatter plot

Three levels

- G / I / N – **TRULY** global / innovative / networked
- g / i/ n – **somewhat** global / innovative / networked
- * / * / * – **not at all** global / innovative / networked

- Mathematically 27 (3x3x3) possible combinations e.g. giN or *In
- If theoretically driven, should have fewer

The whole picture



What does this mean?

- **More than half** of the firms polled:
  - Operate across national borders
  - Are at least somewhat innovative
  - Rely on some form of networks for their offering
- In a distant second place, only 12% of the dataset is not at all global, innovative or networked
- Networkers (5.76%) and Global networkers (4.11%) are the next largest group

We live in a globalised world

- What happens if we use stricter criteria?
  - Globalness - operations **across all continents**, not just across Europe and not just across the Triad
  - Innovativeness – **new to the world** rather than new to the firm
  - Networkedness – **formal and informal** relationships with a **range of partners** to create **innovations**
- **15%** of the dataset meets the stricter criteria

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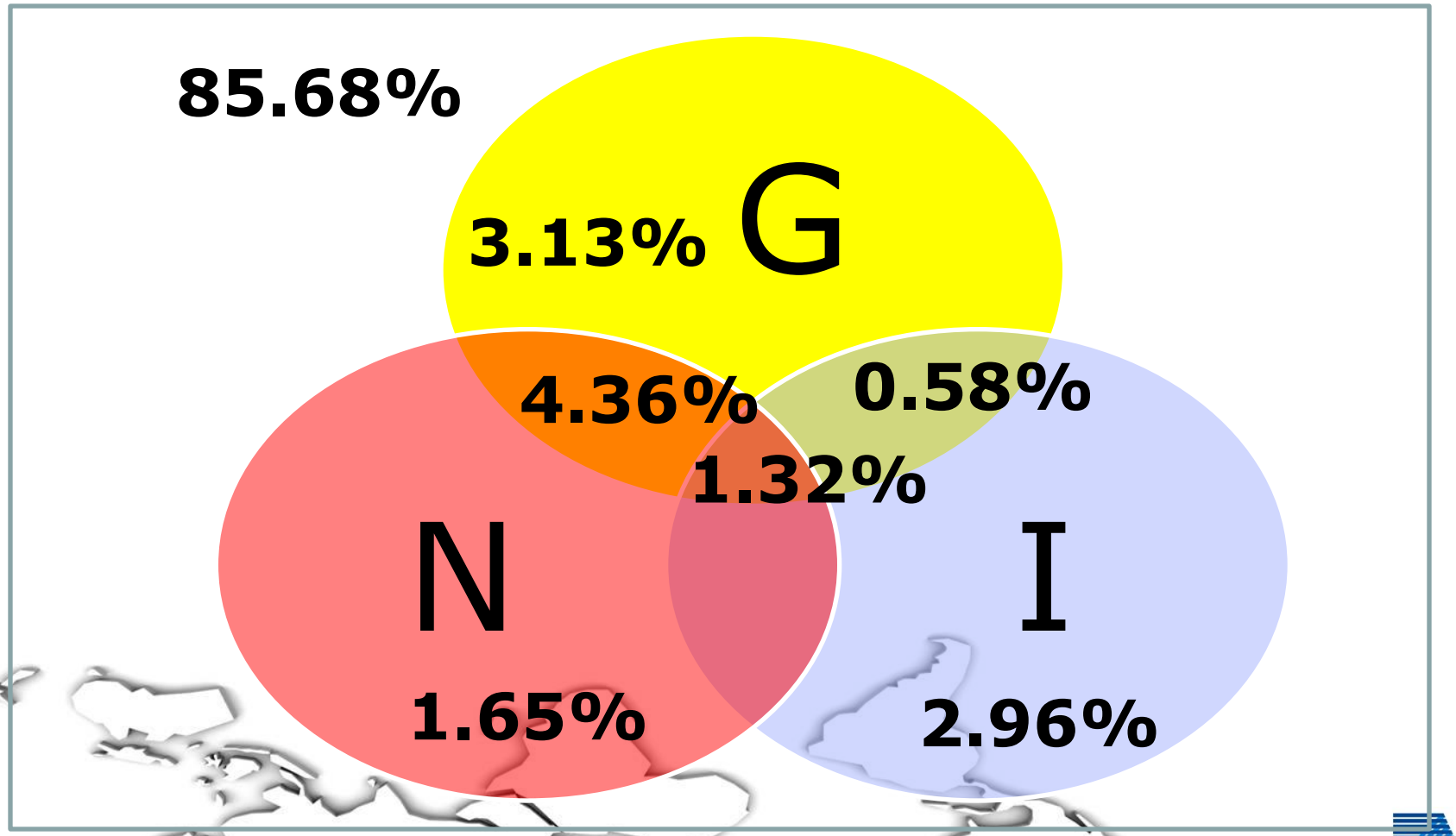
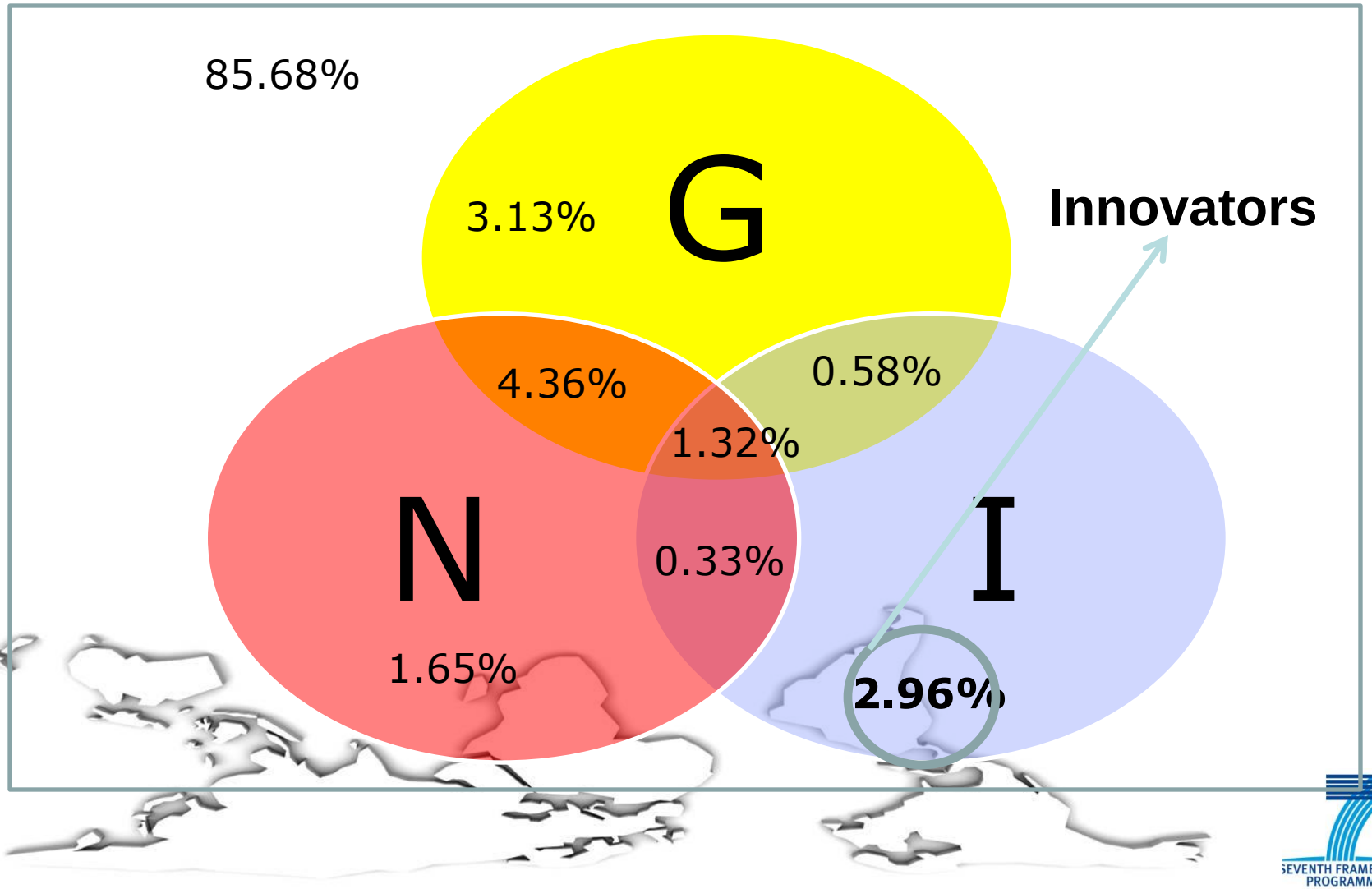
Using stricter criteria



Different types have different characteristics

- Three main groupings emerge:
  - Innovators
  - Global networkers, Networkers and Global asset exploiters
  - Strong form GINs

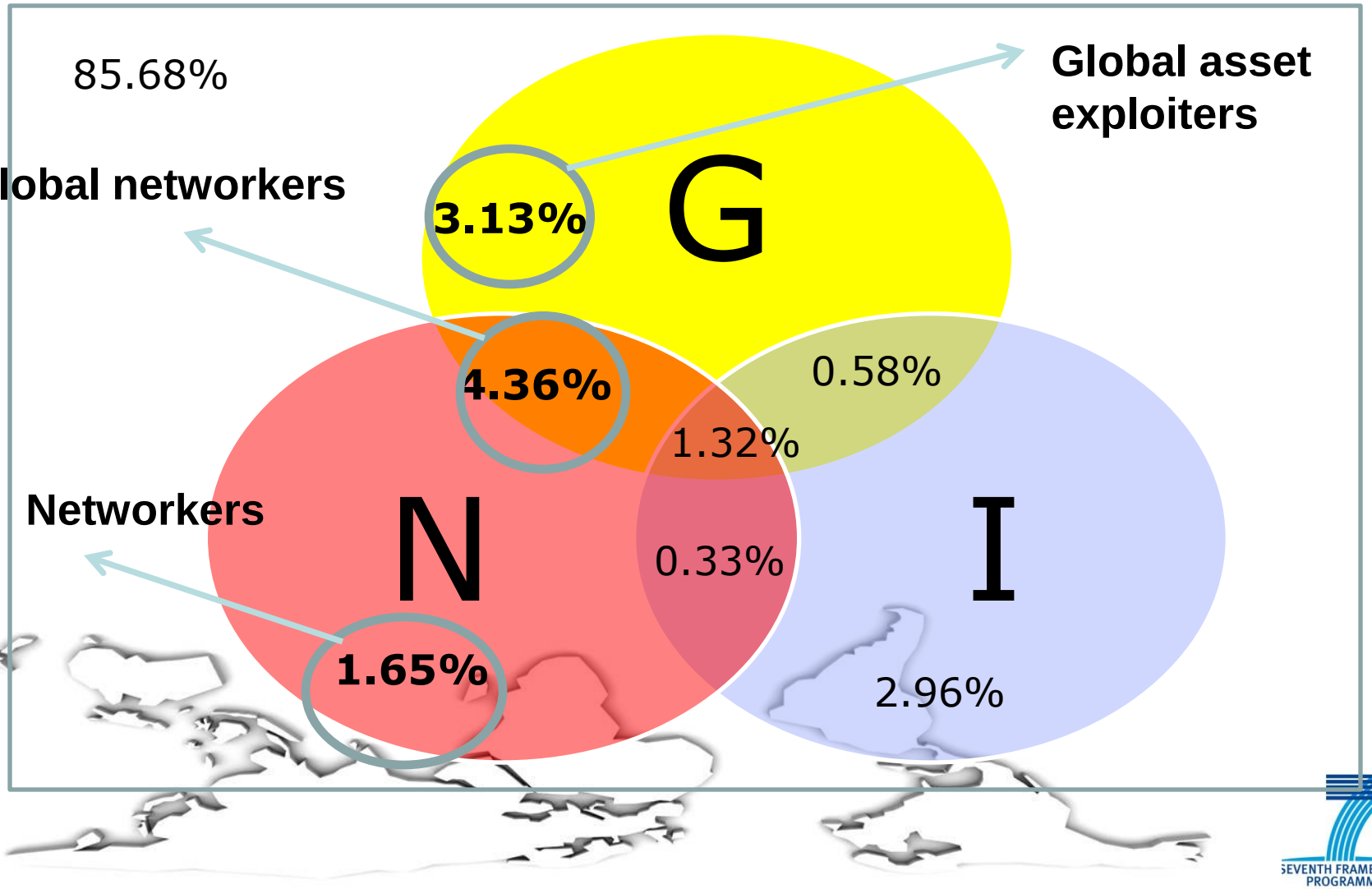
Innovators



Some characteristics of gIn

- All industries
- European firms best represented
  - Drawing on rich institutional context
- Small firms (less than 50 employees)
- Standalone firms
- Little evidence of **harvesting** value

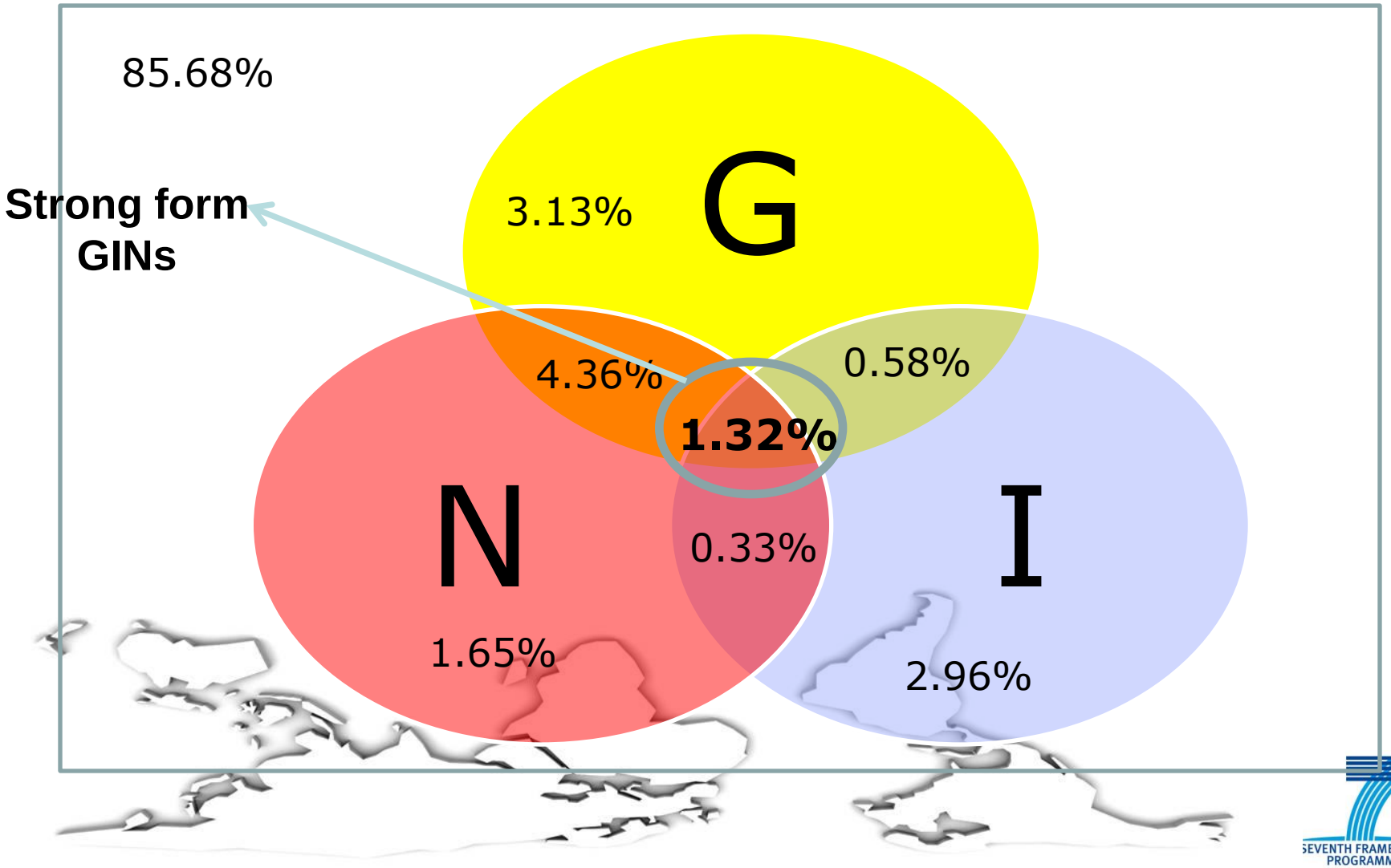
Global asset exploiters, Global Networkers & Networkers



Some characteristics of Gin, GiN & giN

- All industries
- Large firms – more than 1000 employees
- Mainly MNCs
  - European MNCs well represented among Gins (Global asset exploiters) and giNs (non-global networkers)
  - Emerging MNCs more likely to be GiNs (Global networkers)
- Fairly traditional model – exploiting your locally developed capabilities abroad

Strong-form GINs (15 out of 1215 firms in 9 countries)



Some characteristics of GIN

- Not auto with its tiered hierarchy – but ICT and agro
- Between 50 and 1000 employees
  - Large enough to need to access resources globally
  - Small enough to manage that complex process
- Equal split between stand-alone firms and subsidiaries (of both established and emerging MNCs)
  - **ALL** located in developing countries rather than Europe

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GINs – a dual emergence

- It seems that GINs are emerging from two quite different processes
  - **Advanced MNCs** (mainly from the US) are deepening the trend to innovate through increasingly global and increasingly networked processes
  - Players from emerging markets (sometimes emerging MNCs, but sometimes not) are developing capabilities in the creation and management of global networks to **compensate for institutional limitations**, e.g. skills shortages

So what?

- GINs can be:
  - A way for leading firms to cement their competitive advantage
  - A "compensatory mechanism" for firms from weaker contexts
- Either way, the emergence of GINs suggests an **increasing disconnect** between the fortunes of a firm and the fortunes of its home country
  - World-leading firms can emerge from ANY location

What about firms?

- It used to be that "good" locations produced "good" firms
  - And the location benefited from the firms through job creation and technological advancement
- Considerable work on encouraging SME development is based on that premise
- But how true is that when a firm can seek out capabilities anywhere in the world?
  - Additional research is required to understand how much and how GIN type firms benefit their location

What about locations?

- Firms are fragmenting their value chains and locating in the MOST APPROPRIATE place for any given activity
- Countries with strong competence bases will increasingly attract business seeking those competencies
  - And will develop further competencies in those areas
- Countries that are underdeveloped will increasingly be marginalised
  - Even by firms originating in those countries

The need for specialisation

- It is getting increasingly easy to a)find and b)locate in the most appropriate location for a given activity
- The emergence of global innovation networks therefore places at risk locations that lack a clear "competitive" advantage
- Because the value chain is fragmenting, a locational advantage can be specialised
- The development of **specialised capabilities in marginal locations** is key to them being included in this global reorganisation of economic activity

Thanks for your attention/questions

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