RISIS

Research infrastructure for research and innovation policy studies

SEVENTH FRAMEWORK PROGRAMME

RISIS European infrastructure on research and innovation policy studies

http://risis.eu

Philippe Larédo

Université Paris Est – IFRIS

and University of Manchester - MIOIR

UNIVERSITÉ PARIS-EST

École des Ponts ParisTech

IFRIS

MANCHESTER 1824

The University of Manchester

MIoIR

Basic data

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- 13 partners from 10 countries, all public, 7 universities & 6 public research organisations
- Starting 1 January 2014
- 4 years
- 5 M € support
- Opening 9 existing & 4 new dataset, Opening 2 platforms
- Some 100 projects expected representing 1200 days for transnational access; equivalent number for platforms
- 2 key annual events: RISIS week (for developing the project & interacting with policymakers) & ENID annual conference (for discussing results with the community)

Ambitions, goals and expected impact

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- The ambition: promote a distributed research infrastructure to advance science & innovation studies
- A public good (free access for European Researchers)
- The goals:
  - consolidate and integrate existing datasets
  - complement by new datasets on key issues not covered
  - build specialised software platforms to address 'ad hoc' issues: extract, structure and treat semantic data from the web
  - develop tools (technical & cognitive) to favour articulation with other existing datasets
- The expected impact: provide a radically improved evidence base for research and innovation policies and for research evaluation (via enabling the development of new relevant indicators)

Indicator production: A fast changing environment

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- Beyond input and output indicators: **positioning indicators** (Barré, Filliatreau & Lepori, 2008)
- 3 central characteristics
  - build upon publicly available data (the explosion of internet sources, the development of multiple public or private datasets)
  - keep the identity & strategies of actors (remember that 200 firms perform half of total world industrial R&D)
  - firmly rooted into explicit theories of change & innovation
- An explosion of experimental datasets since 2000 … that require stabilisation, deepening and articulation

5 critical themes (1): Firm innovation capacities

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- Issue 1 - the role of large firms: where do they invest in R&D? Is Europe attractive and for whom?
  → The approach: use patents as a marker of the geography of R&D investments
  → Corporate Invention Board (IFRIS, Paris) – see example
- Issue 2 – start-up firms and the critical issue: how do they grow.
  → A wide encompassing dataset of firms over 20 years for longitudinal analyses (including the role of venture capital)
  → VICO (Politecnico de Milano, Milano)
- Issue 3 – knowing more on European fast growing mid-sized firms: where they are? What forms of innovation? What roles for R&D?
  → A new experimental dataset

5 critical themes (2): European Integration

- Issue 1 – the extent and stabilisation of Networks promoted by EU level programmes
  → a longitudinal actor & theme based structuration of EU DB
  → EUPRO (AIT, Vienna)
- Issue 2 – the construction of Europe through 'joint' funding
  → A dataset on joint programming by member country funding agencies - next development: positioned within overall R&D public funding
  → JOREP (CNR, Roma)
- Issue 3 – how is Europe reconfigured by new emerging S&T
  → Nano S&T dynamics (IFRIS, Paris) as a major issue and as setting processes for other emerging themes (see platforms)

5 critical themes (3): Public sector research

- One critical issue for exploiting most datasets: the construction of registers at European level.
- Build on the long lasting work on universities: Aquameth, EUMIDA and ETER
- Develop a first version of a similar approach for Public Research organisations (with 'conceptual' issues about categorisations) (CSIC, Madrid)
- Develop flexible approaches to perimeters to take account of growing blurring of borders (e.g. KIT)
- Favour an integrated view of excellence, whatever type of public sector organisation (University of Leiden with enlarged Leiden ranking)

5 critical themes (4): researcher careers

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- The situation:
  - existing datasets mostly national and ad-hoc, focused on the staged academic career
  - transnational datasets focused on mobility (OECD, More in Europe)
- The strategy:
  - offer a detailed access to researchers for More (NIFU) and for the only longitudinal large-size panel of doctoral students (IFQ, Berlin)
  - develop, test and implement a framework to integrate multiple local datasets on careers

5 critical themes (5): effects & impacts of research & innovation policies

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- The problem
  - Learning about effects of policies mostly comparative
  - main instrument: evaluations made
  - However: not easily available
- A first experiment: the IPER repository (no longer accessible)
- One demonstration: the MIOIR/NESTA innovation policy compendium: www.innovation-policy.org/compendium
- Construction of new repository of evaluations of research & innovation policies (SIPER, University of Manchester)

2 software platforms

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- CORTEXT Manager (IFRIS, Paris)
  - for data cleaning, enrichment, treatment & visualisation
  - a ‘service’: registered researchers can do all activities on line, supported by a ‘warm line’
- SMS Platform (VUA, Amsterdam)
  - for building new datasets out of the web, using both direct screening and multiple available databases characterising information on the web
  - an ‘experiment’: researchers need to come on site & be supported by local researchers
  - the objective: turn it into a service before the end of the project.

Key activities

- Moving from experimental to robust datasets: a joint preparation of opening (june 2015)
- Accompanying users: a very intensive training programme, work at community level with relevant international association (ENID) in particular for annual conferences
- Two key tools for integration: (a) the annual RISIS week; (b) 2 major 'problem oriented' integration of datasets (organisational & geographical)
- 6 thematic research activities to complement & deepen structured data sources – focusing on firms, public sector research (universities & PRO), research careers, European integration, policy evaluation, and data handling.

To conclude

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- The ambition: a lasting distributed infrastructure, progressively encompassing lost dataset & platform producers in our field
- The philosophy: A common good for all European researchers
- The project: a demonstration
- The central issue at end of demonstration: its institutionalisation (within ESFRI, in term of funding of 'EU level' dimensions

Two examples to illustrate what the existence of robust datasets enables to build as new type of knowledge

http://risis.eu

Example 1: the internationalisation of large firm R&D activities

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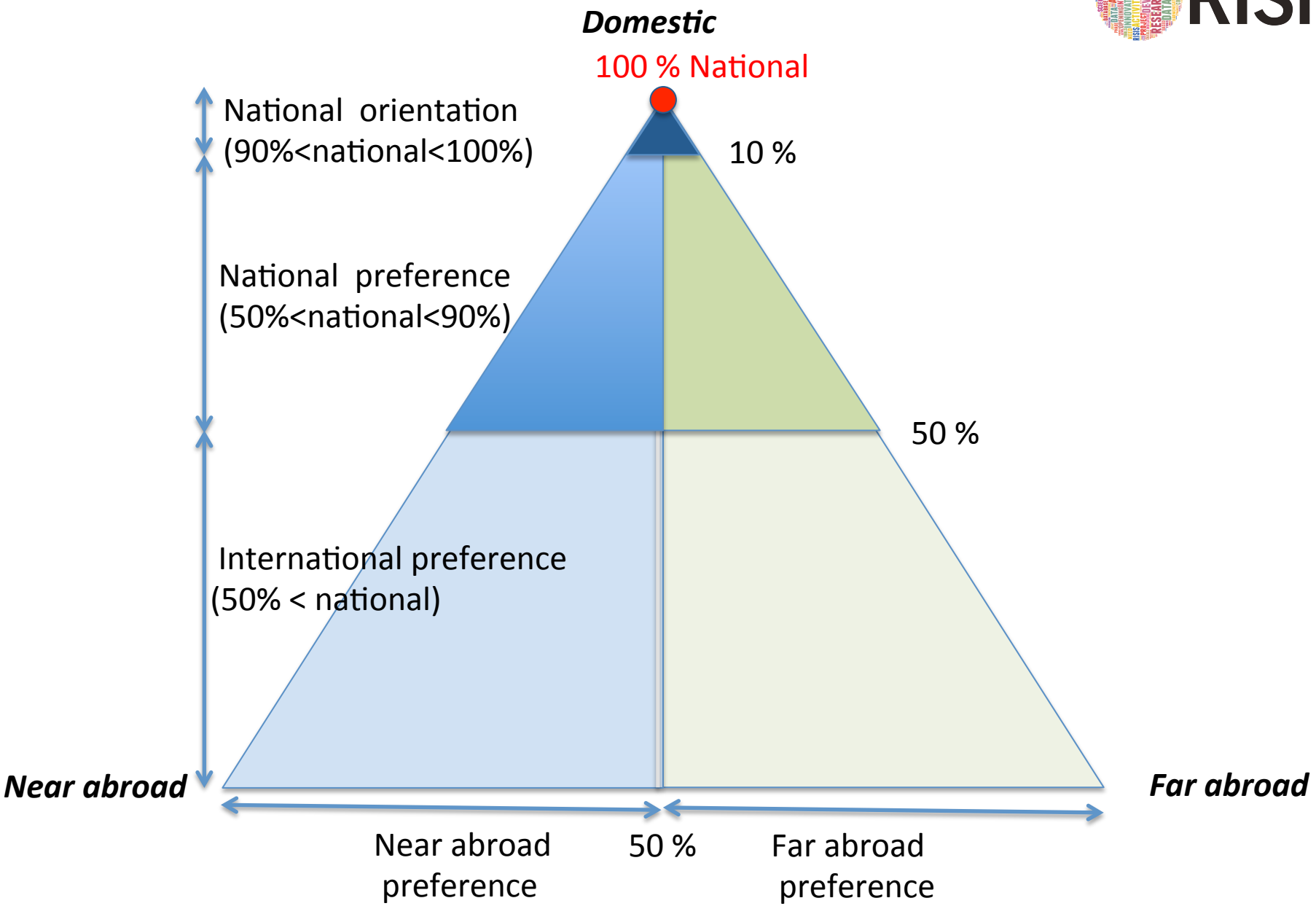
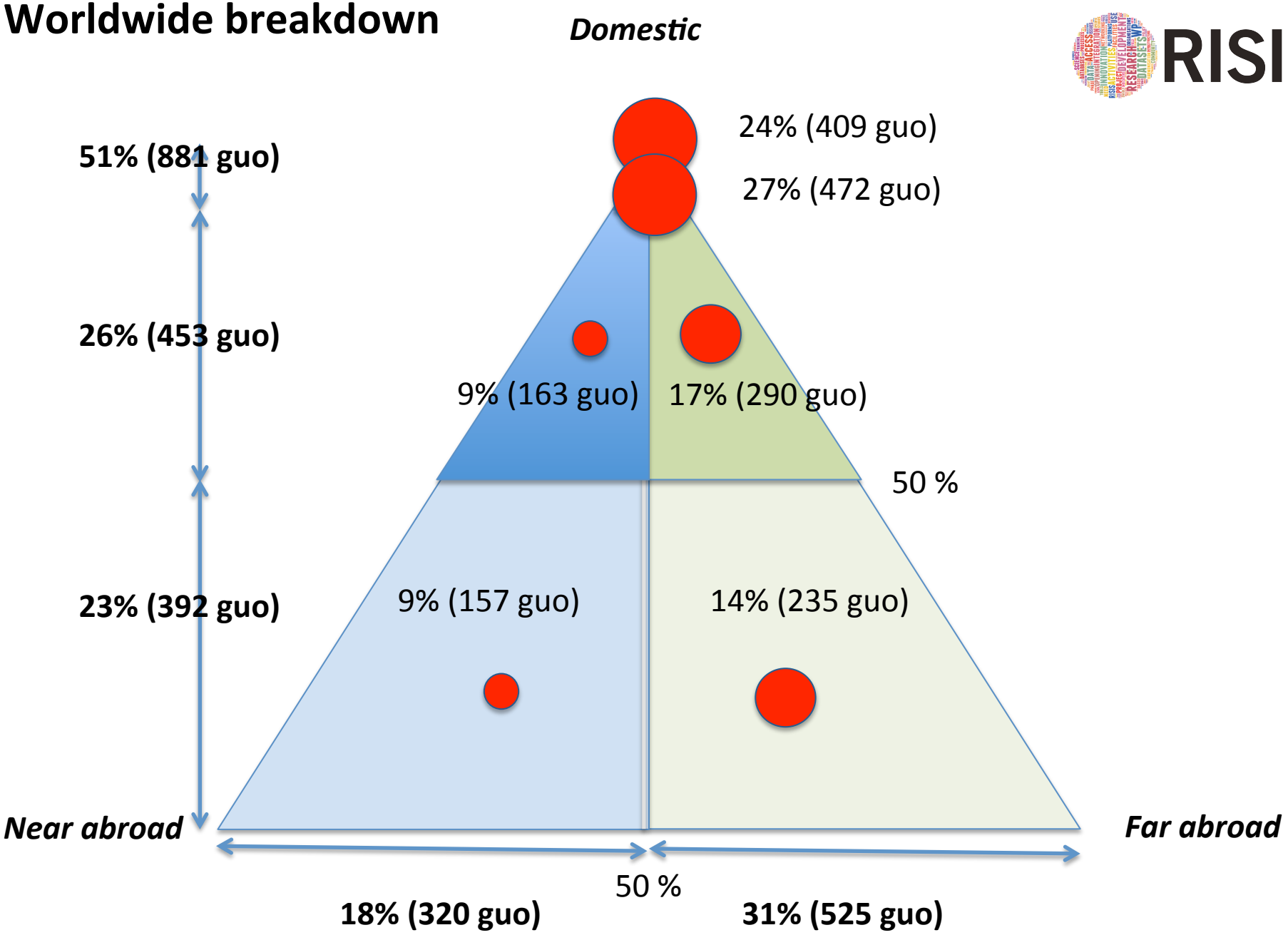
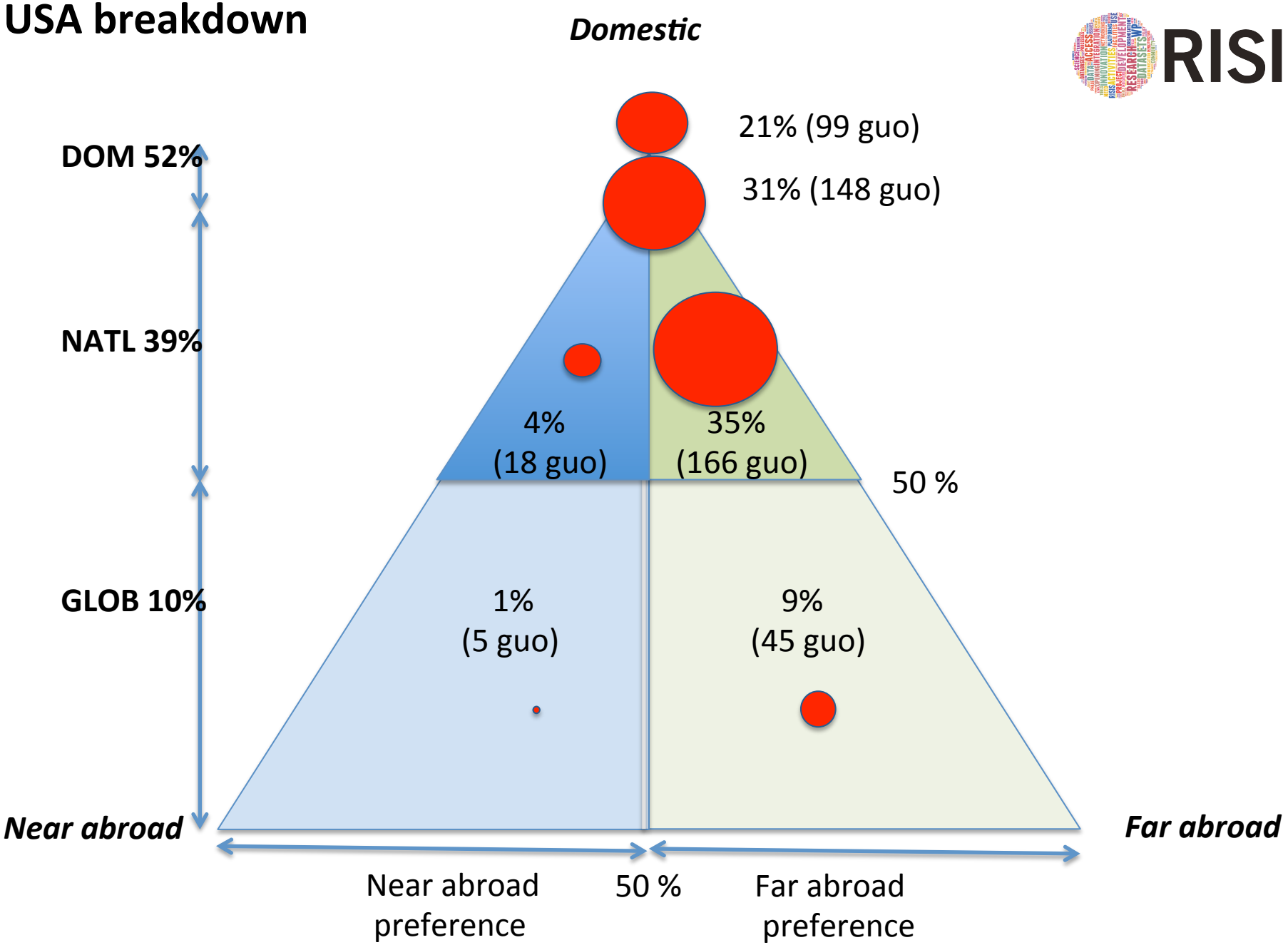
- CIB = 2000 largest firms worldwide, 170000 different legal entities, 58% of total patents asked for worldwide
- Over one decade, no increased internationalisation (around 20% of inventive activities) → the still critical role of the home base (i.e. the country of the headquarters)
- Still 50% of firms mostly 'national' based (see graph)
- Very different levels and dynamics depending upon continents:
  - European firms higher rate (30%+): fast internationalisation in the 1990s based on transatlantic ventures, rationalising since & refocusing on Europe
  - US continuous but slow 'globalisation' still below (17%)
  - Asian fast but limited (around 7%), driven by Korean firms and mostly continental (China)


Domestic
100 % National
National orientation
(90%<national<100%)
10 %
National preference
(50%<national<90%)
50 %
International preference
(50% < national)
Near abroad
Far abroad
Near abroad
preference
50 %
Far abroad
preference

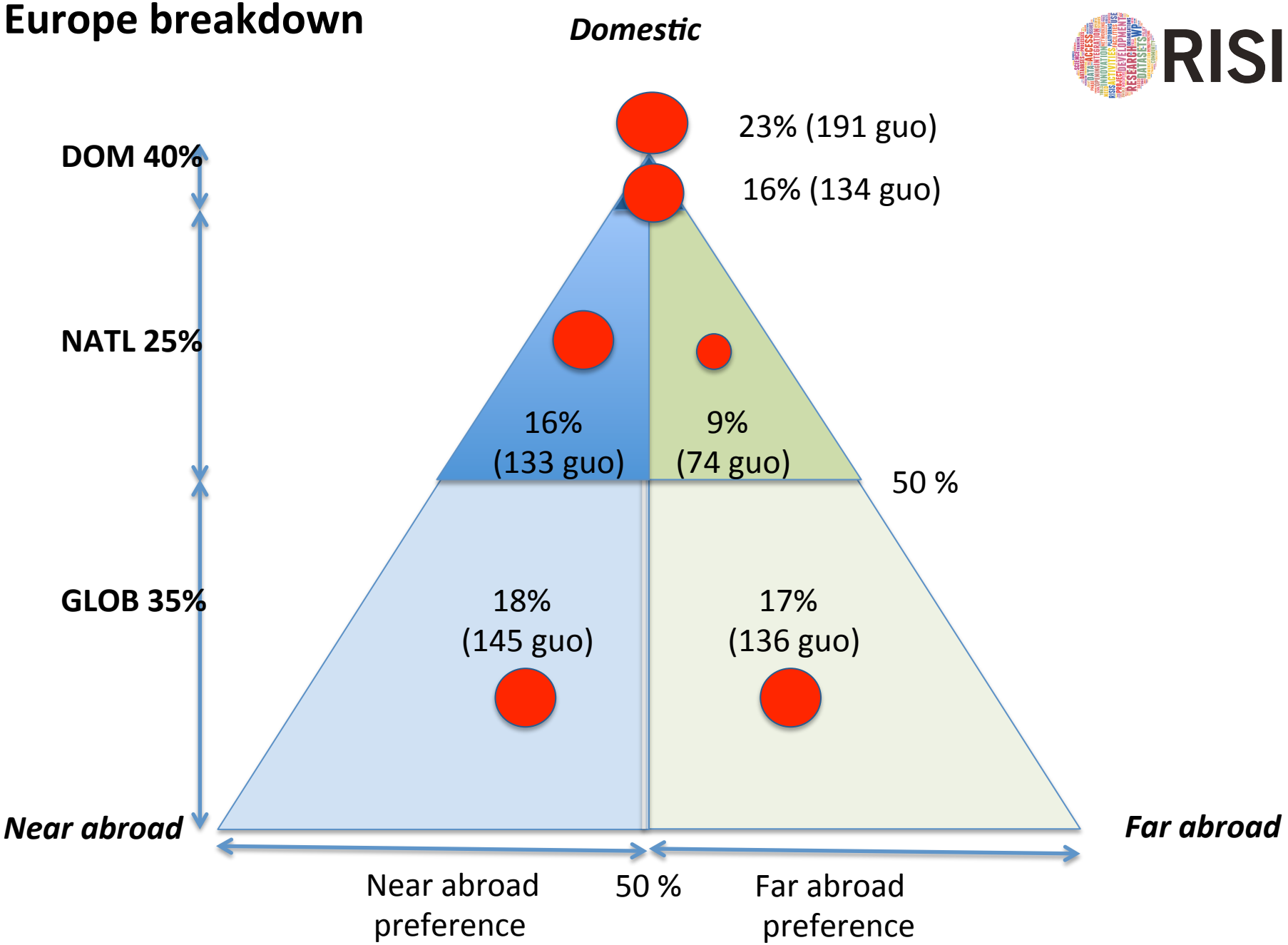
Worldwide breakdown



USA breakdown



Europe breakdown



Example 2: the role of transatlantic scientific exchanges in nanotechnology

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- Issue: are transatlantic relations central for new dominant sciences?
- IFRIS nano DB: publications & patents, 4 million items in 20 years (1990-2011), fast growth 14% per year consistently
- Concentration in 200 clusters & strength of inter-cluster relations
  - 75% of total publications, 40% of publications are inter-cluster
  - in all continents, few clusters polarize networks (5 in the US, 8 in Asia and 7 in Europe)
  - Europe unique feature: as much inter-country than intra country relations
- Intercontinental relations marginal (7%), and within them more pacific than transatlantic relations
  - For The US, Asia is 1.5 times more important than Europe
  - For Europe the 1st partner is Russia

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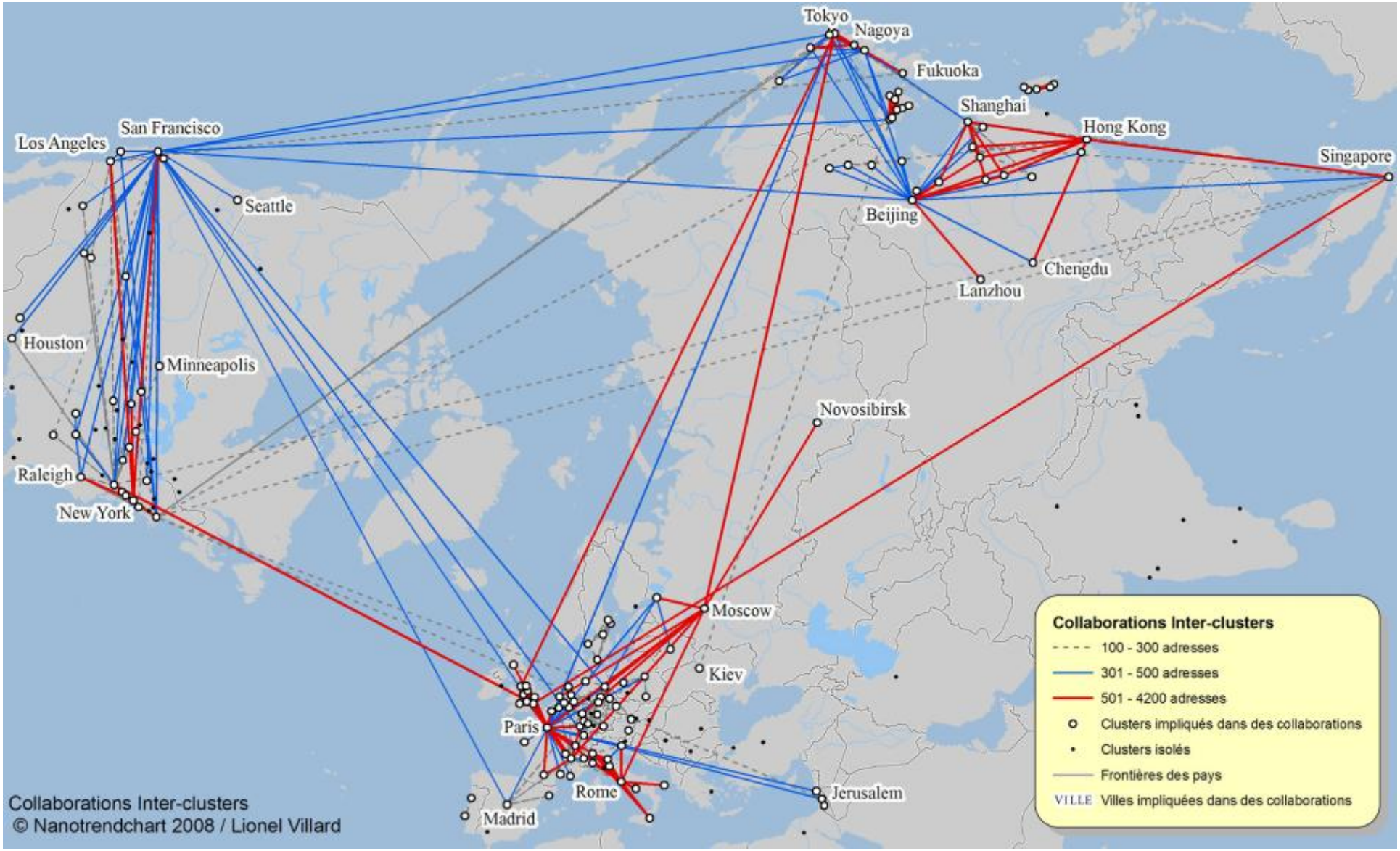
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