Collegio Carlo Alberto
UNIVERSITÀ DEGLI STUDI DI TORINO

CENTRO STUDI SUL FEDERALISMO

EPC
EUROPEAN POLICY CENTRE

A New Industrial Policy for the European Union

The Industry in Europe: a Key for the Future

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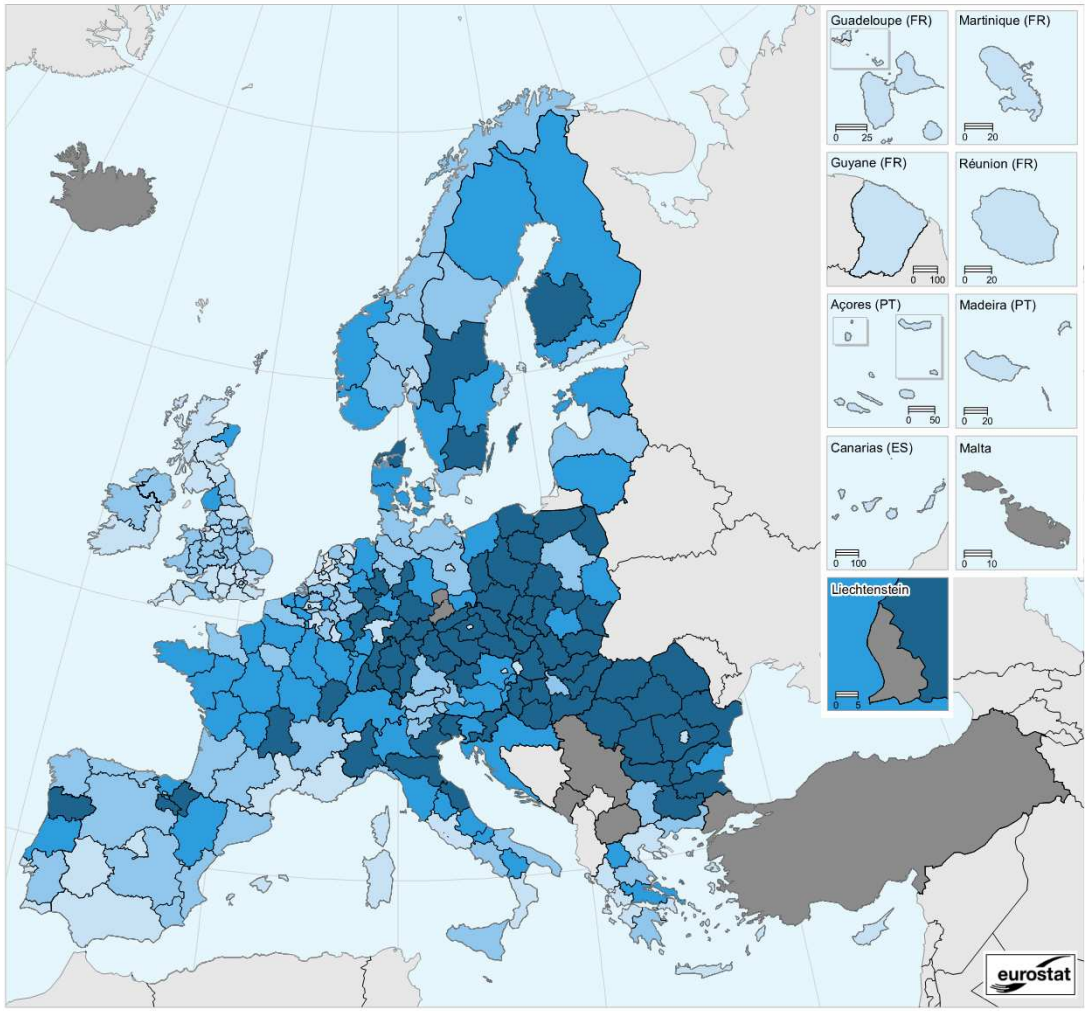
The key role of industry in Europe …

Eurostat, Regional yearbook 2014, p.138, **Industry**

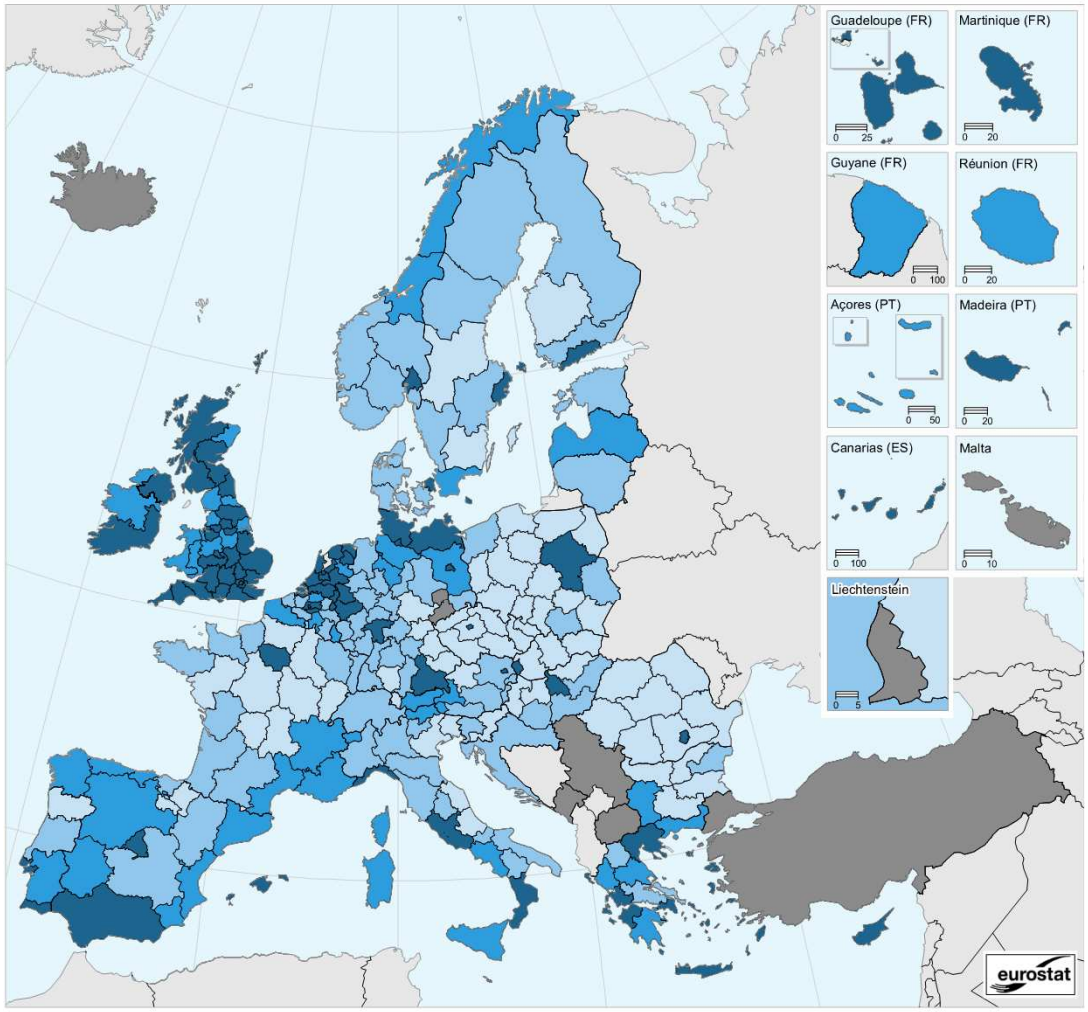
Employment in the industrial economy, by NUTS 2 regions, 2011 (¹)
(% of the non-financial business economy)



(¹) Industry: NACE Rev. 2 Sections B–E. EU-28 average: calculated on the basis of available data. Greece and France: 2010. Croatia and Switzerland: national level.
Source: Eurostat (online data code: sbs_r_nuts06_r2)

Eurostat, Regional yearbook 2014, p.141, **Services**

Employment in the non-financial services economy, by NUTS 2 regions, 2011 (1)
(% of the non-financial business economy)

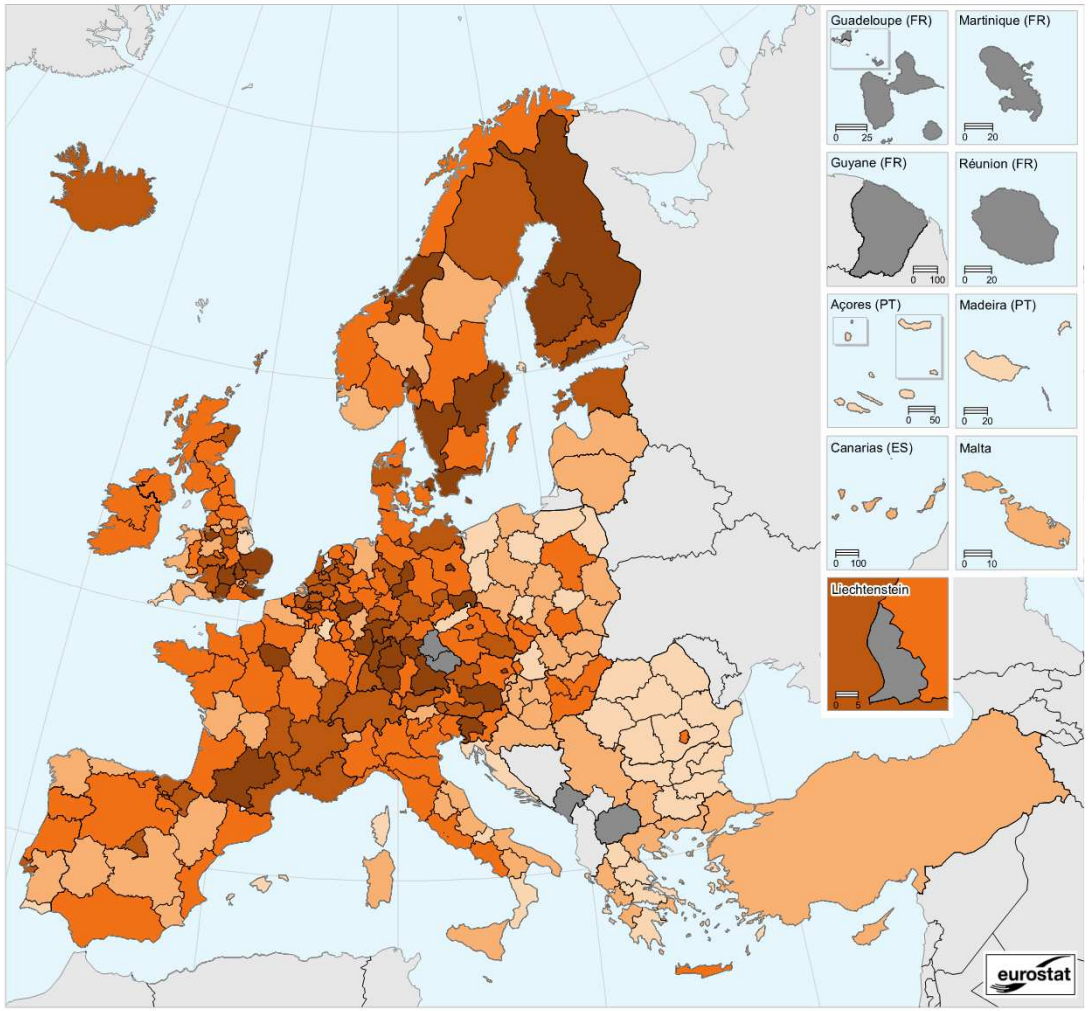


(1) Non-financial services: NACE Rev. 2 Sections G–N (excluding Section K) and Division 95. EU-28 average: calculated on the basis of available data. Greece and France: 2010. Croatia and Switzerland: national level.

Source: Eurostat (online data code: sbs_r_nuts06_r2)

Eurostat, Regional yearbook 2014, p.158,
R&D

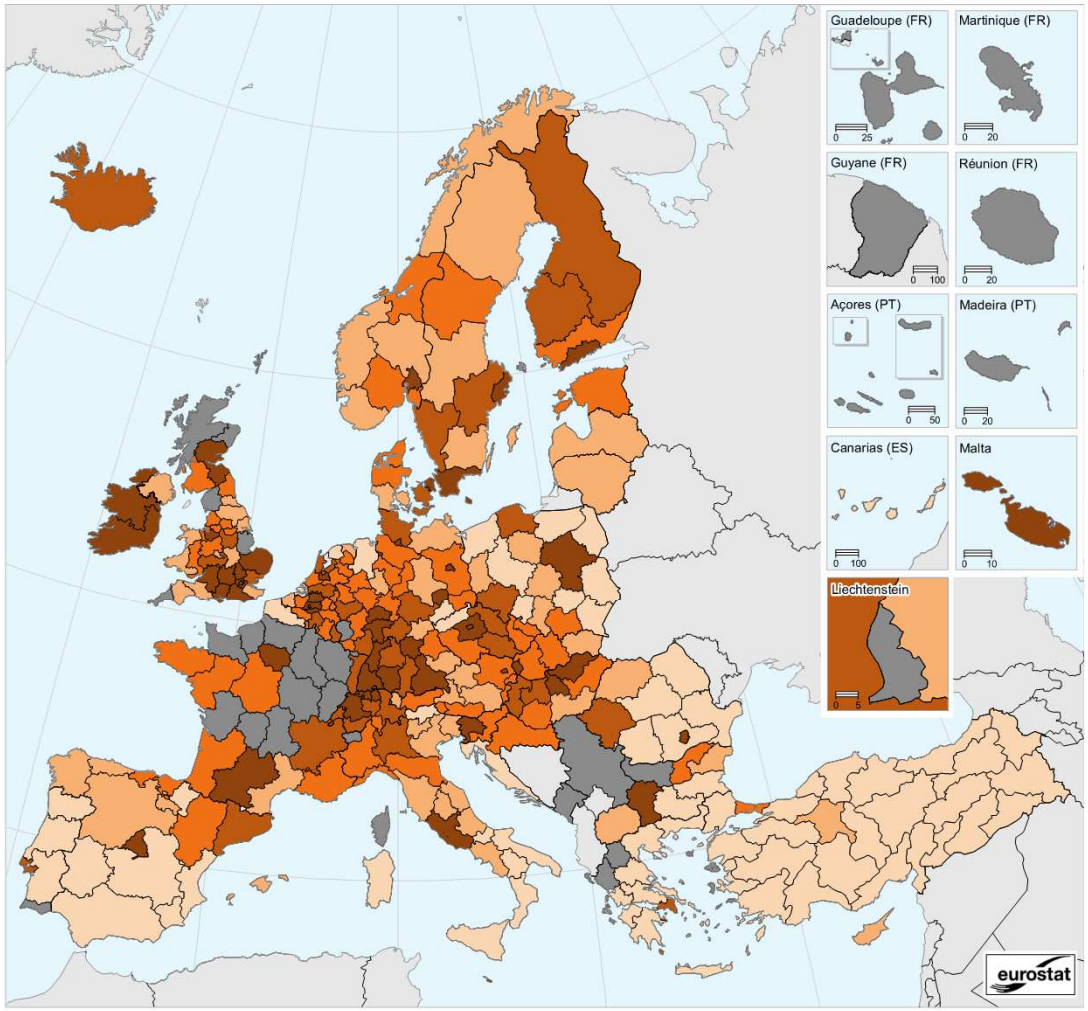
R & D intensity, by NUTS 2 regions, 2011 (¹)
(total R & D expenditure as a % of GDP)



(¹) Luxembourg: 2010. Switzerland: 2008. Switzerland and Turkey: national level. EU-28, Ireland and the Netherlands: estimates.
Source: Eurostat (online data code: rd_e_gerdreg)

Eurostat, Regional yearbook 2014, p.165,
High-tech Employment

Employment in high-tech sectors, by NUTS 2 regions, 2012 (¹)
(% of total employment)

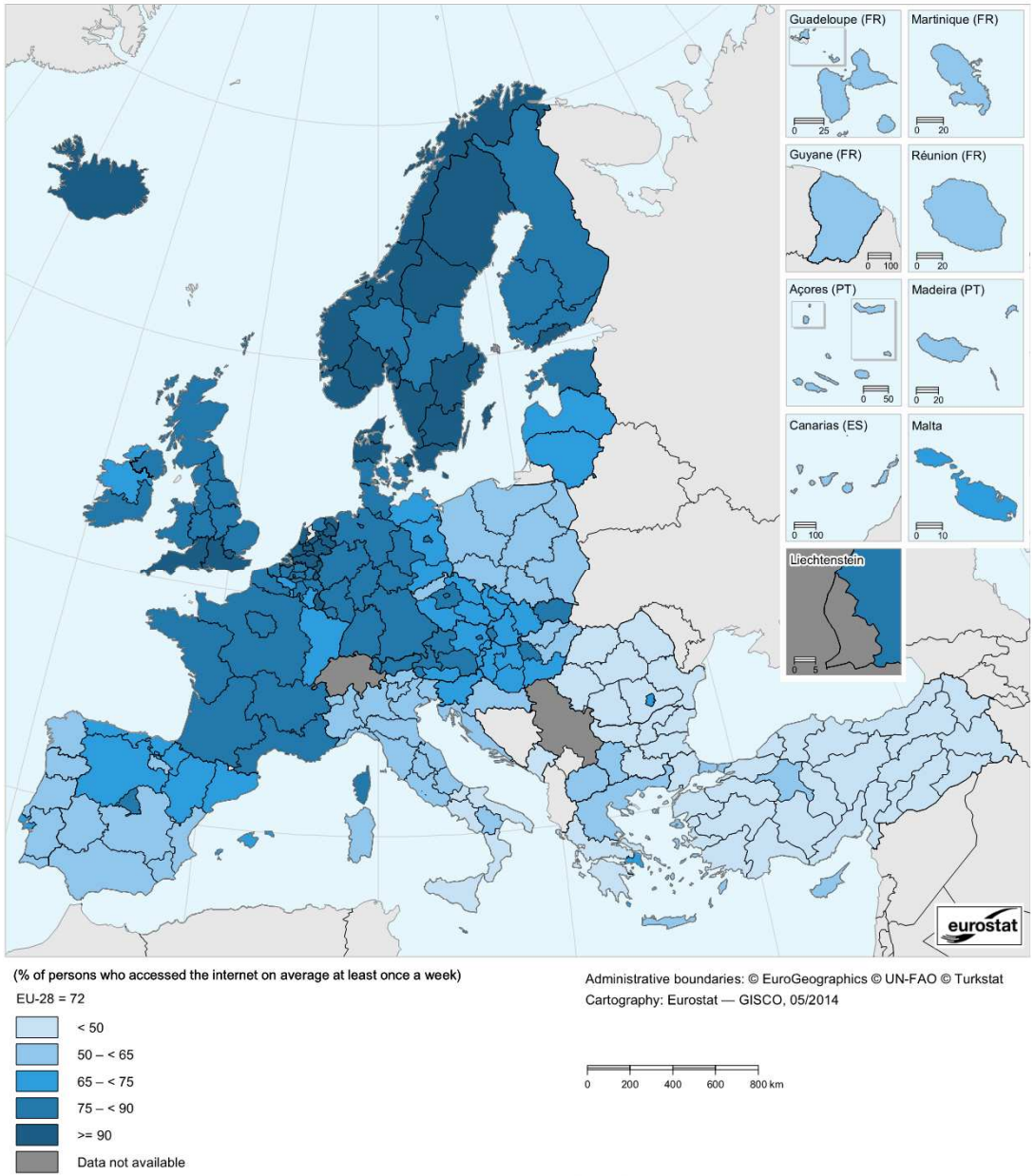


(¹) Severen tsentralen (BG32), Yugoiztochen (BG34), Anatoliki Makedonia, Thraki (EL11), Notio Aigaio (EL42), Alentejo (PT18) and Tees Valley and Durham (UKC1): 2011. Peloponnisos (EL25) and Molise (ITF2): 2010. Data for several regions have low reliability (too numerous to document).

Source: Eurostat (online data code: htec_emp_reg2)

Eurostat, Regional yearbook 2014, p.179, **Internet**

Regular use of the internet, by NUTS 2 regions, 2013 (¹)
(% of persons who accessed the internet on average at least once a week)



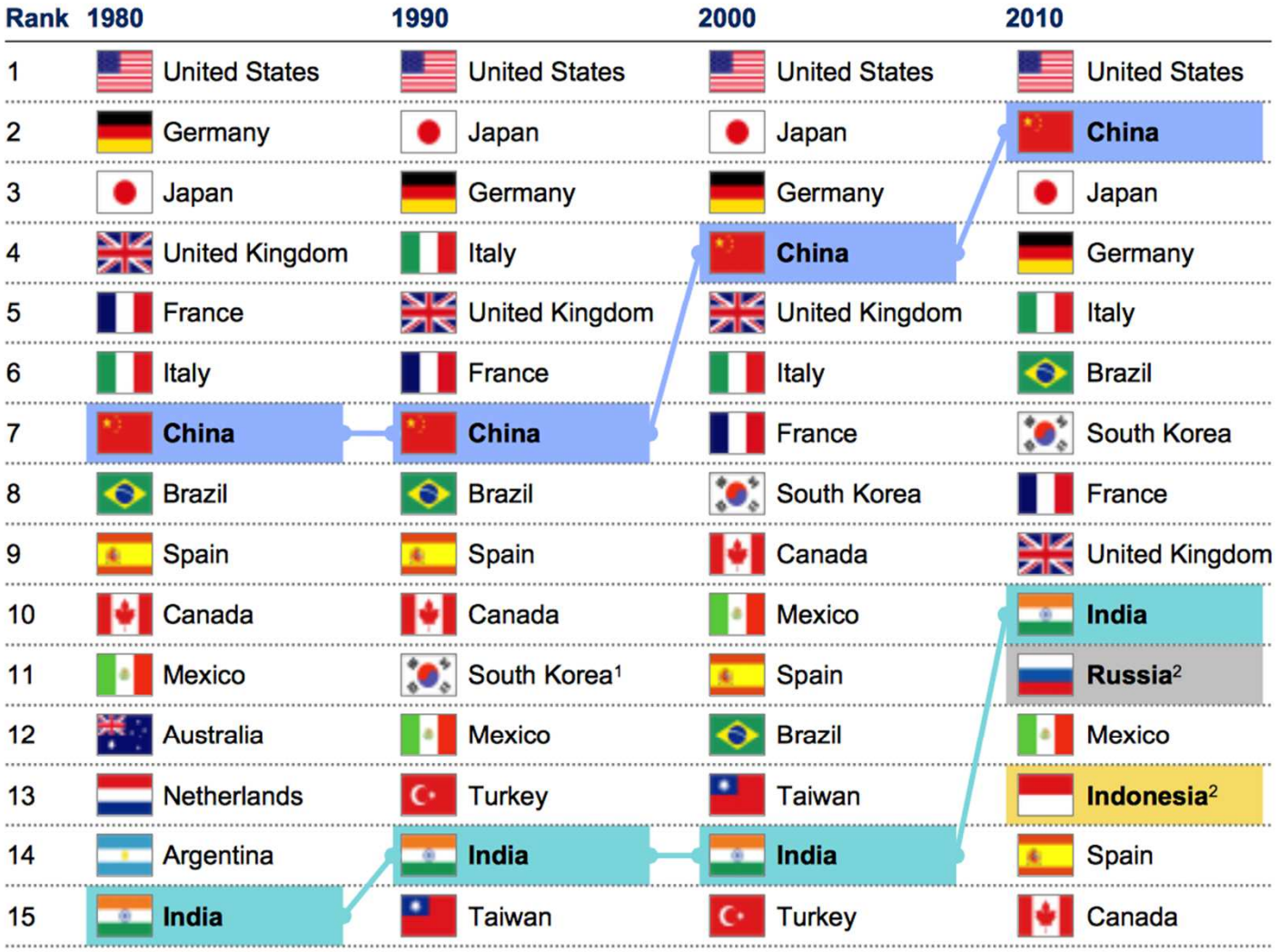
(¹) The former Yugoslav Republic of Macedonia: 2012. Montenegro: 2011. Germany, Greece, France, Poland and the United Kingdom: by NUTS 1 regions. Slovenia: national data. Mellersta Norrland (SE32): low reliability.

Source: Eurostat (online data code: isoc_r_broad_h and isoc_ci_eu_i)

… current positions and potential ones …

Large developing economies are moving up in global manufacturing

Top 15 manufacturers by share of global nominal manufacturing gross value added



1 South Korea ranked 25 in 1980.
2 In 2000, Indonesia ranked 20 and Russia ranked 21.
NOTE: Based on IHS Global Insight database sample of 75 economies, of which 28 are developed and 47 are developing. Manufacturing here is calculated top down from the IHS Global Insight aggregate; there might be discrepancy with bottom-up calculations elsewhere.
SOURCE: IHS Global Insight; McKinsey Global Institute analysis

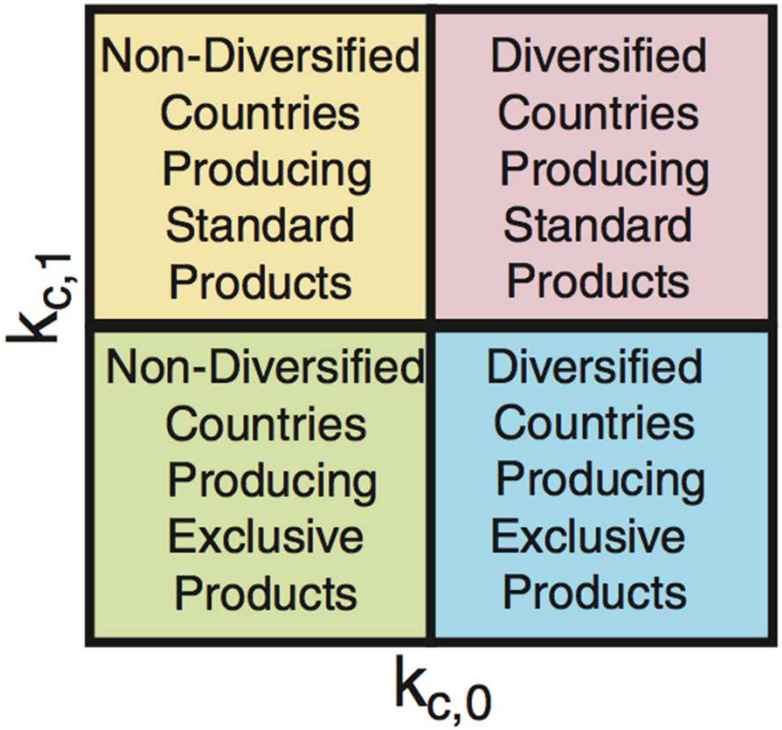
Position of the G-6 countries, China and South Korea in the ranking of competitiveness of the Trade Performance Index UNCTAD/WTO: Year 2011

(ranking in each sector worldwide; in bold the placements among the top 10 exporters in the world)

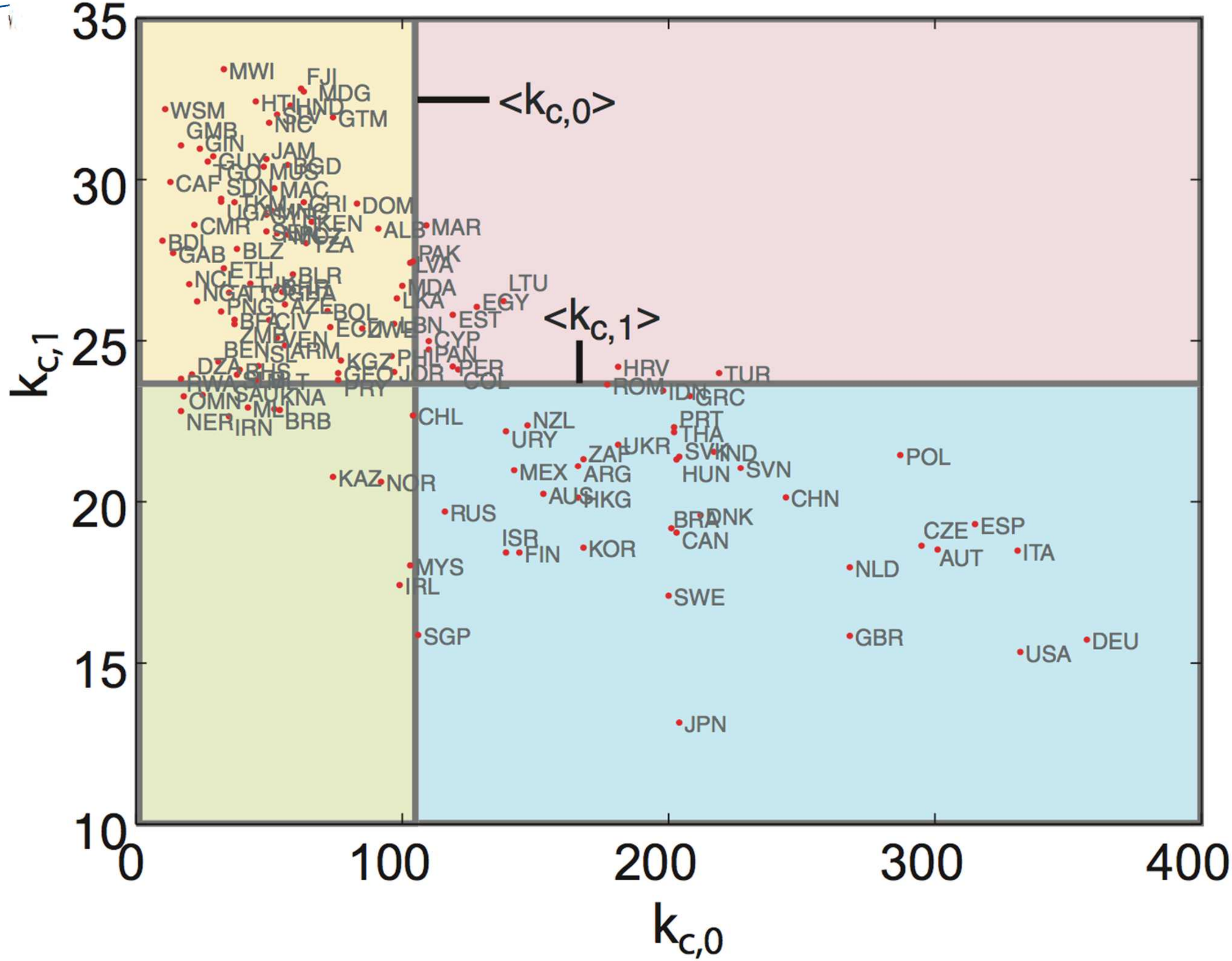
	GERMANY	ITALY	FRANCE	JAPAN	UNITED STATES	UK	CHINA	SOUTH KOREA
Fresh food	24	31	**7**	90	**6**	38	55	83
Processed food	**1**	**6**	**2**	86	39	41	22	71
Wood products	**1**	24	28	52	**5**	34	37	56
Textiles	**2**	**1**	19	36	33	24	**3**	**8**
Chemicals	**1**	26	**3**	**6**	15	**7**	27	**9**
Leather products	12	**1**	11	85	38	17	**3**	51
Basic manufactures	**1**	**2**	27	**8**	48	30	**3**	**7**
Non-electronic machinery	**1**	**2**	**7**	13	22	11	**8**	15
IT & Consumer electronics	12	22	17	43	23	20	**5**	**8**
Electronic components	**1**	14	24	**6**	39	21	37	16
Transport equipment	**1**	17	11	**5**	37	32	**10**	**4**
Clothing	15	**1**	11	79	46	22	**2**	49
Miscellaneous manufacturing	**1**	**2**	21	**8**	25	22	**7**	40
Minerals	26	68	33	91	23	21	72	87

Source: compiled by Fondazione Edison on International Trade Centre UNCTAD/WTO data.

The atlas of economic complexity, http://atlas.media.mit.edu/atlas/



C. Hidalgo and R. Hausmann. The building blocks of economic complexity. Proceedings of the National Academy of Sciences, 106(26):10570, 2009.



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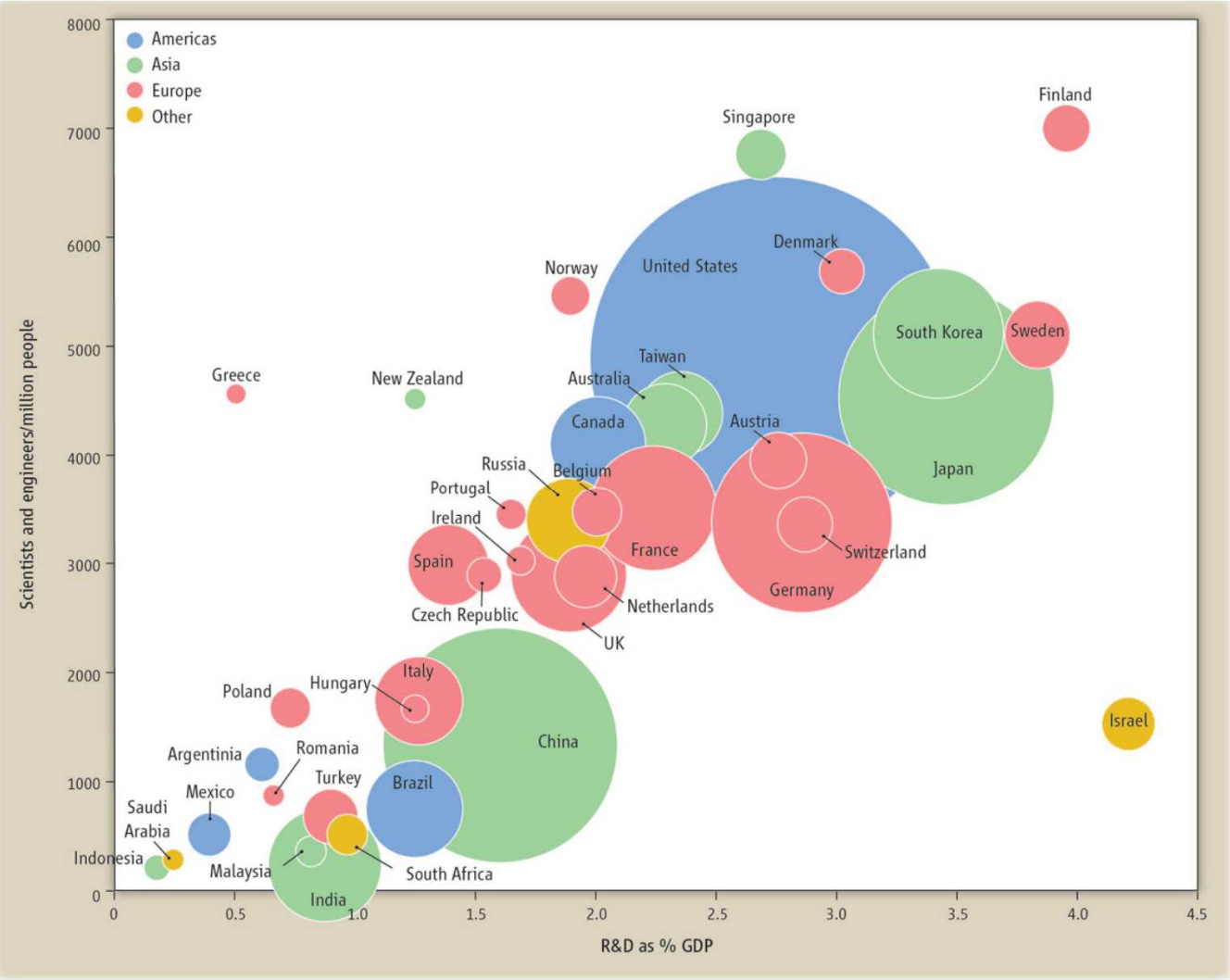
… but …



W. H. Press. What's so special about science (and how much should we spend on it?). Science, 342(6160):817–822, 2013. doi: 10.1126/science.342.6160.817.

URL http://www.sciencemag.org/content/342/6160/817.short.

… incoming changes …


WuXinhua

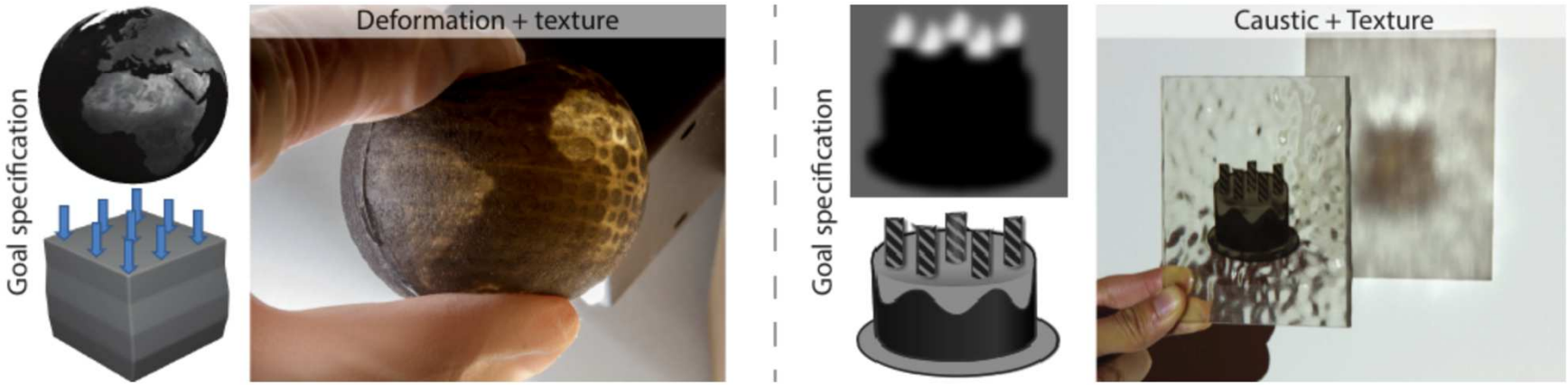
3D printing

Spec2Fab: A Reducer-Tuner Model for Translating Specifications to 3D Prints

Desai Chen David I.W. Levin Piotr Didyk Pitchaya Sitthi-Amorn Wojciech Matusik

MIT CSAIL

SIGGRAPH 2013



3D-printed objects with various effects designed using our reducer-tuner model. Our generalized approach to fabrication enables an easy and intuitive design of objects with different material properties. On the left: a miniature of Earth with a prescribed deformation behavior. On the right: an optimized surface producing a caustic image under proper illumination as well as casting a shadow of a previously designed shape. Insets visualize an input to our system.

Abstract

Multi-material 3D printing allows objects to be composed of complex, heterogenous arrangements of materials. It is often more natural to define a functional goal than to define the material composition of an object. Translating these functional requirements to fabricable 3D prints is still an open research problem. Recently, several specific instances of this problem have been explored (e.g., appearance or elastic deformation), but they exist as isolated, monolithic algorithms. In this paper, we propose an abstraction mechanism that simplifies the design, development, implementation, and reuse of these algorithms. Our solution relies on two new data structures: a reducer tree that efficiently parameterizes the space of material assignments and a tuner network that describes the optimization process used to compute material arrangement. We provide an application programming interface for specifying the desired object and for defining parameters for the reducer tree and tuner network. We

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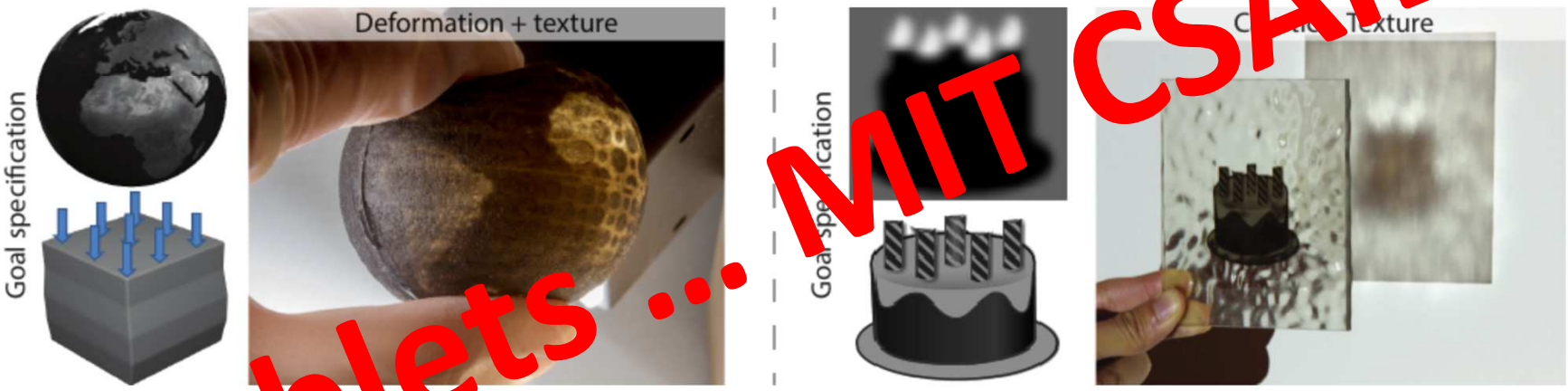

Fablets … MIT CSAIL

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Abstract

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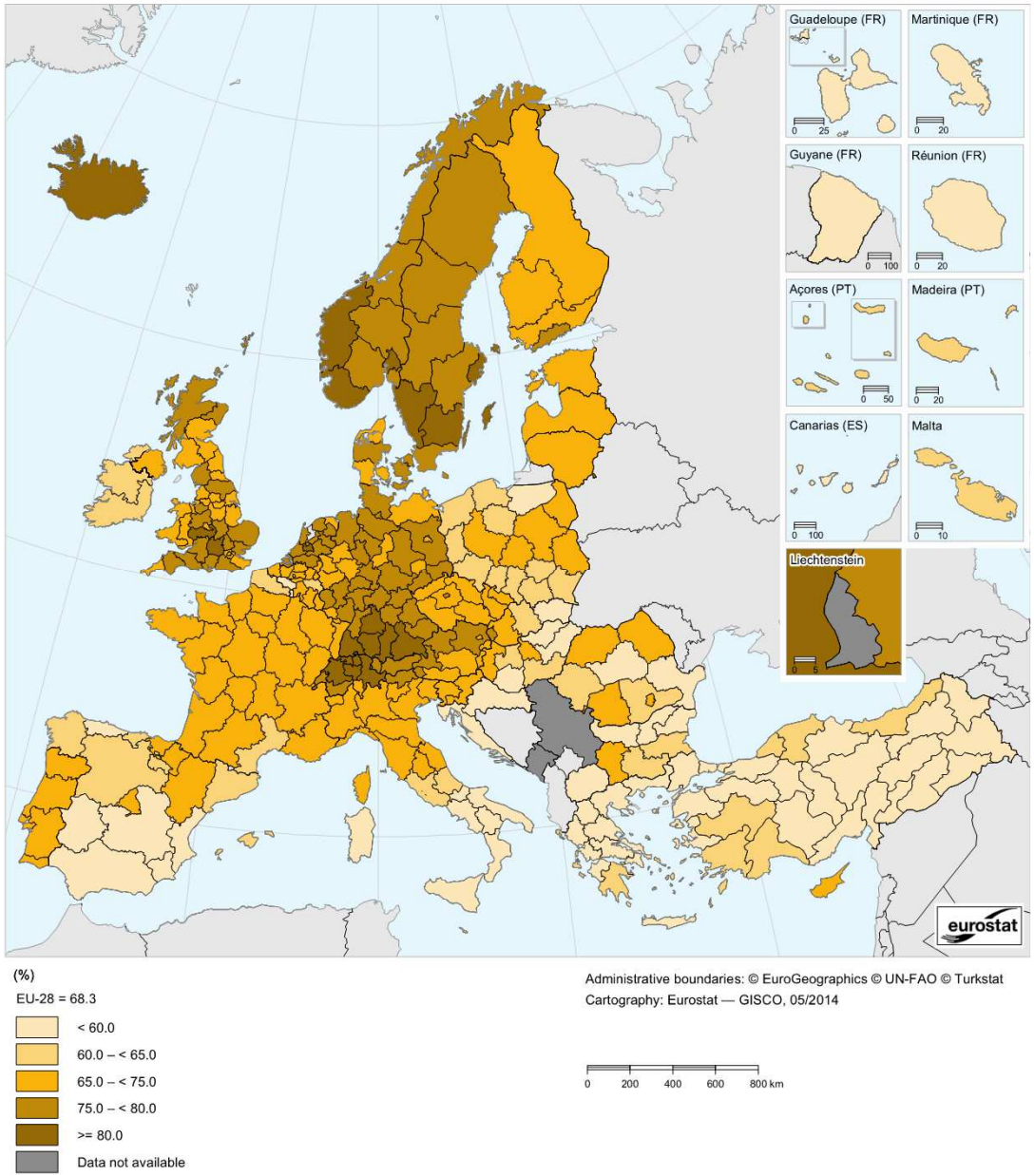
Google goes manufacturer

… in background …

Eurostat, Regional yearbook 2014, p.97, **Employment Rate, 20-64**

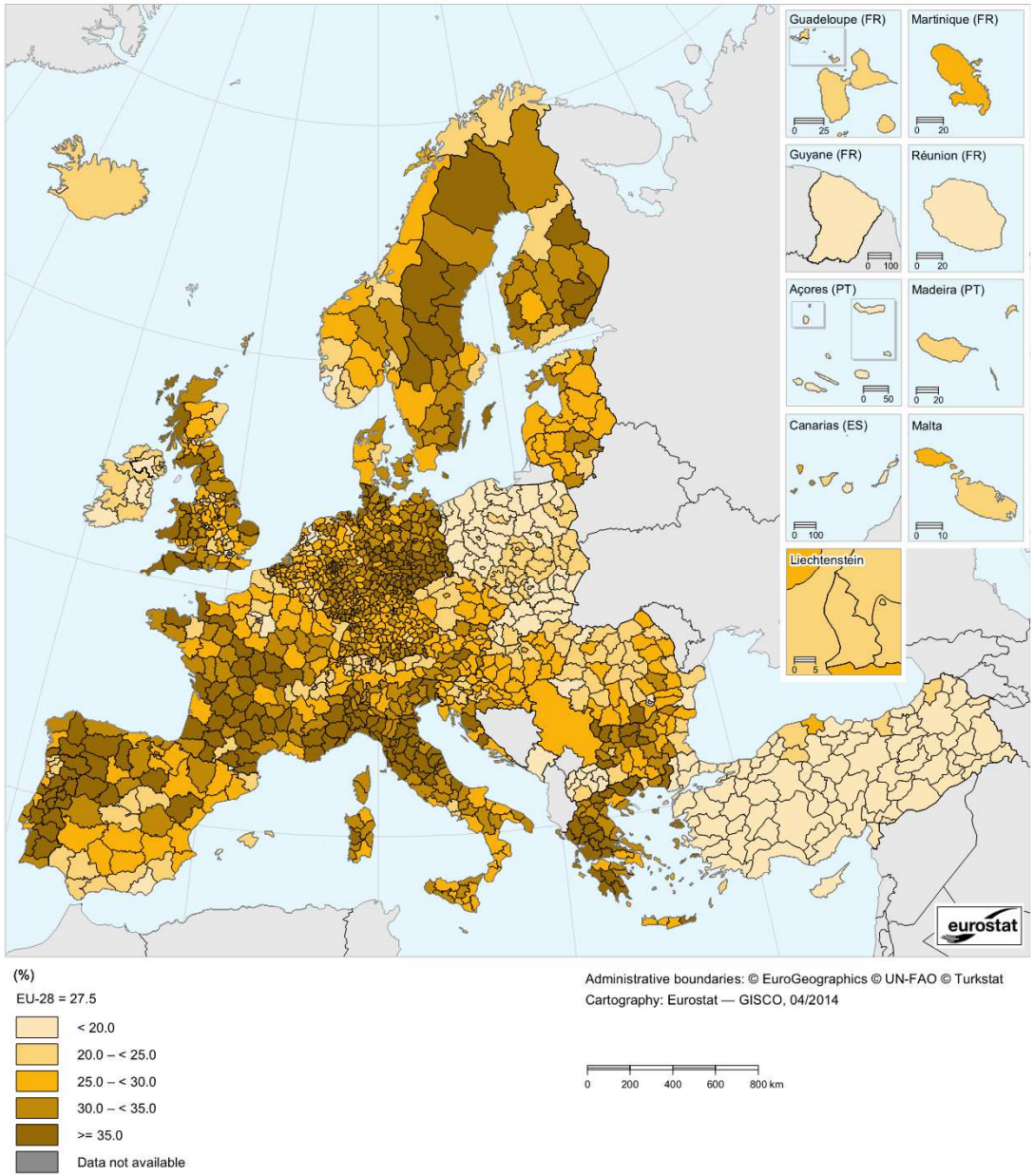
Employment rate, persons aged 20–64, by NUTS 2 regions, 2012
(%)



Source: Eurostat (online data code: lfst_r_lfe2emprt)

Eurostat, Regional yearbook 2014, p.36, **Old-age dep. rate**

Old-age dependency ratio, by NUTS 3 regions, 1 January 2013 (¹)
(%)

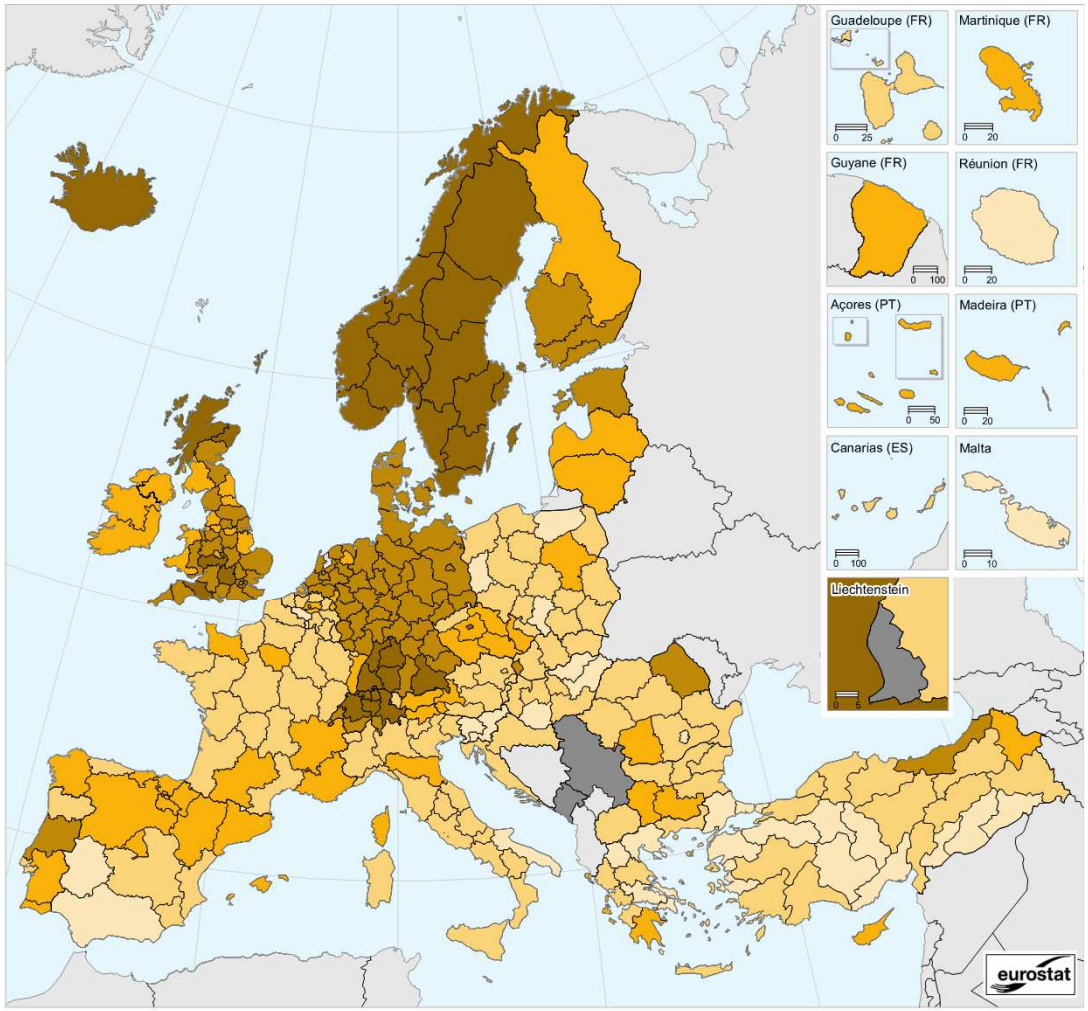


(¹) Romania and the United Kingdom (except Northern Ireland): 1 January 2012. Mecklenburg-Vorpommern (DE8) and Northern Ireland (UKN): 1 January 2011. Serbia: national level.

Source: Eurostat (online data code: demo_r_pjanaggr3 and demo_pjanind)

Eurostat, Regional yearbook 2014, p. 103,
Old persons empl. rate (55-64)

Older persons employment rate, persons aged 55–64, by NUTS 2 regions, 2012 (¹)
(%)



(¹) Ciudad Autónoma de Ceuta (ES63), Ciudad Autónoma de Melilla (ES64) and Åland (FI20): low reliability.
Source: Eurostat (online data code: lfst_r_lfe2emprt)

… industrial policy objectives …

ICT (hw and sw)

Automotive

Aero-space

Chemicals

Energy - Environment

Health care technologies

Globalization integration

Old working persons special programs

Thanks

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