Exploratory Data Analysis

Papers about "Edge Computing" and "Mobile Computing" extracted from Web of Science

Questions to answer

- **RQ1: what are the most influential literatures of ECIoT?**

- **RQ2: which journals are the most popular in the ECIoT field?**

- **RQ3: which authors are leading the EC-IoT study?**

- **RQ4: what is the evolution of EC-IoT research field?**

- **RQ5: what are the main research institutions?**

- **RQ6: what is the research status of EC-IoT in countries/ regions around the world?**

- **RQ7: what are the EC-IoT hot spots?**

Questions extracted from "A Bibliometric Analysis of Edge Computing for Internet of Things" paper!

Results – Searching on WoS

Search filters

Results – Searching on WoS

Results – Searching on WoS

Refinar resultados

"IoT" or "Internet of things" or "smart Hon 🔍

Results after refining

2,295 resultados de Science Citation Index Expanded (SCI-EXPANDED):

🔍 **"edge computing"** (Todos os campos) or **"mobile computing"** (Todos os campos)

Analisar resultados   **Relatório de citações**

Filtrado por: Pesquisa em todos os campos: "Iot" Or "Internet Of Things" Or "Smart Home" Or "Smart City" Or "Industrial Automation" Or "Connected Vehicles" ✕   Limpar todos

🔗 Copiar link dos resultados da busca | *Tempo estipulado: 2000-01-01 to 2020-12-16 (Data de publicação)*

Results – RQ1

What are the most influential literatures of ECIoT?

Title	Total Citations	Average per Year
Edge Computing: Vision and Challenges	2023	337,17
A Survey on Mobile Edge Computing: The Communication Perspective	1252	250,4
Fog and IoT: An Overview of Research Opportunities	1015	169,17
Research Directions for the Internet of Things	937	117,13
A Survey on Internet of Things: Architecture, Enabling Technologies, Security and Privacy, and Applications	884	176,8
Mobile Edge Computing: A Survey	730	182,5
The Emergence of Edge Computing	666	133,2
Learning IoT in Edge: Deep Learning for the Internet of Things with Edge Computing	496	124
Fog Computing: Helping the Internet of Things Realize Its Potential	458	76,33
A service-oriented middleware for building context-aware services	450	26,47

Results – RQ2

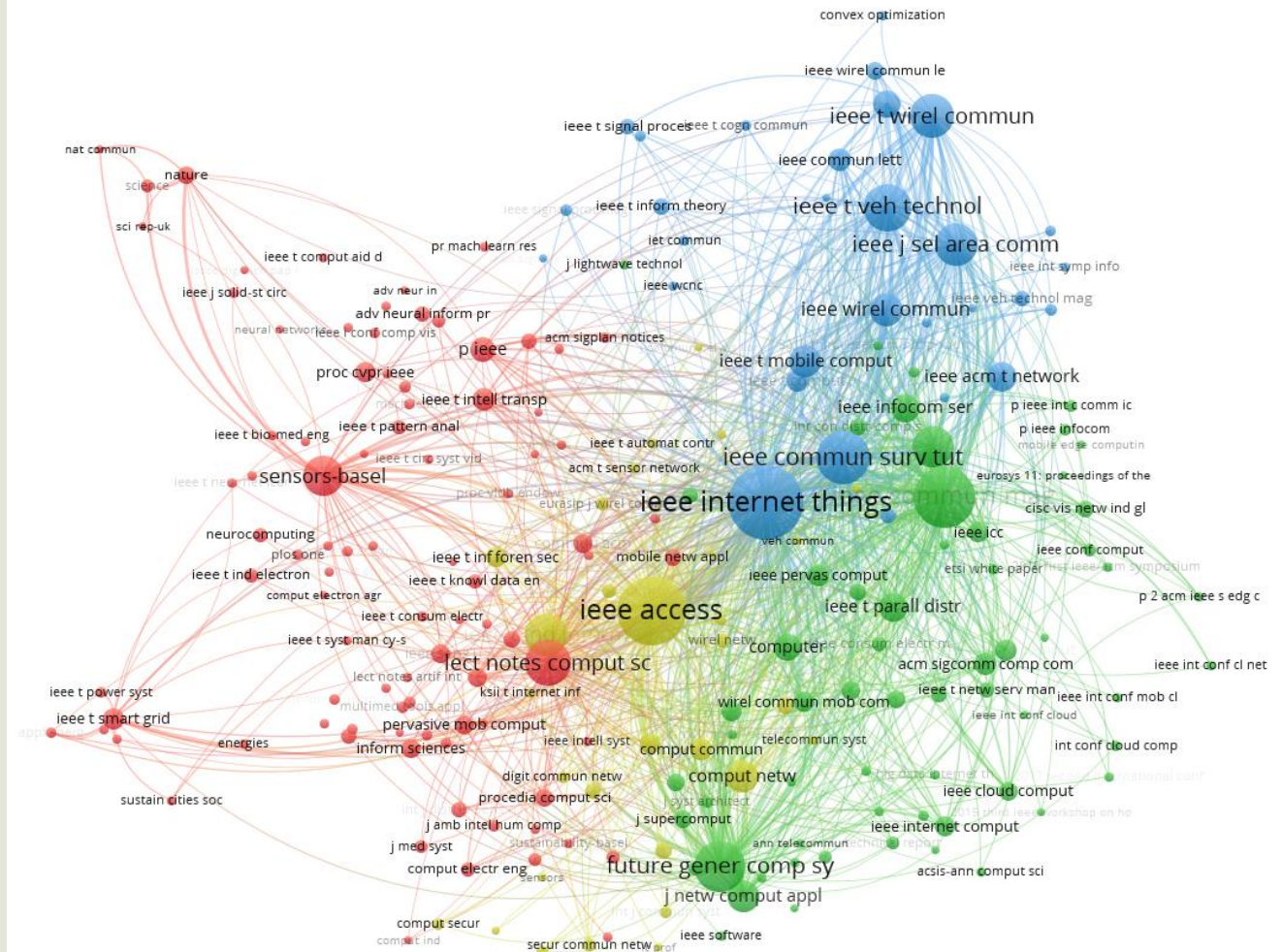**Which journals are the most popular in the ECIoT field?**

Source	Documents	Citations
ieee internet of things journal	339	13608
ieee access	312	4963
wireless communications & mobile computing	295	1376
pervasive and mobile computing	107	2482
sensors	105	1067
future generation computer systems-the international journal of escience	71	2000
ieee transactions on mobile computing	70	1427

Results – RQ2

Which journals are the most popular in the ECIoT field?

Clusters generated in the Vos Viewer tool. As can be seen from the table above, IEEE Internet of Things Journal and IEEE Access are the most popular in the searched areas.
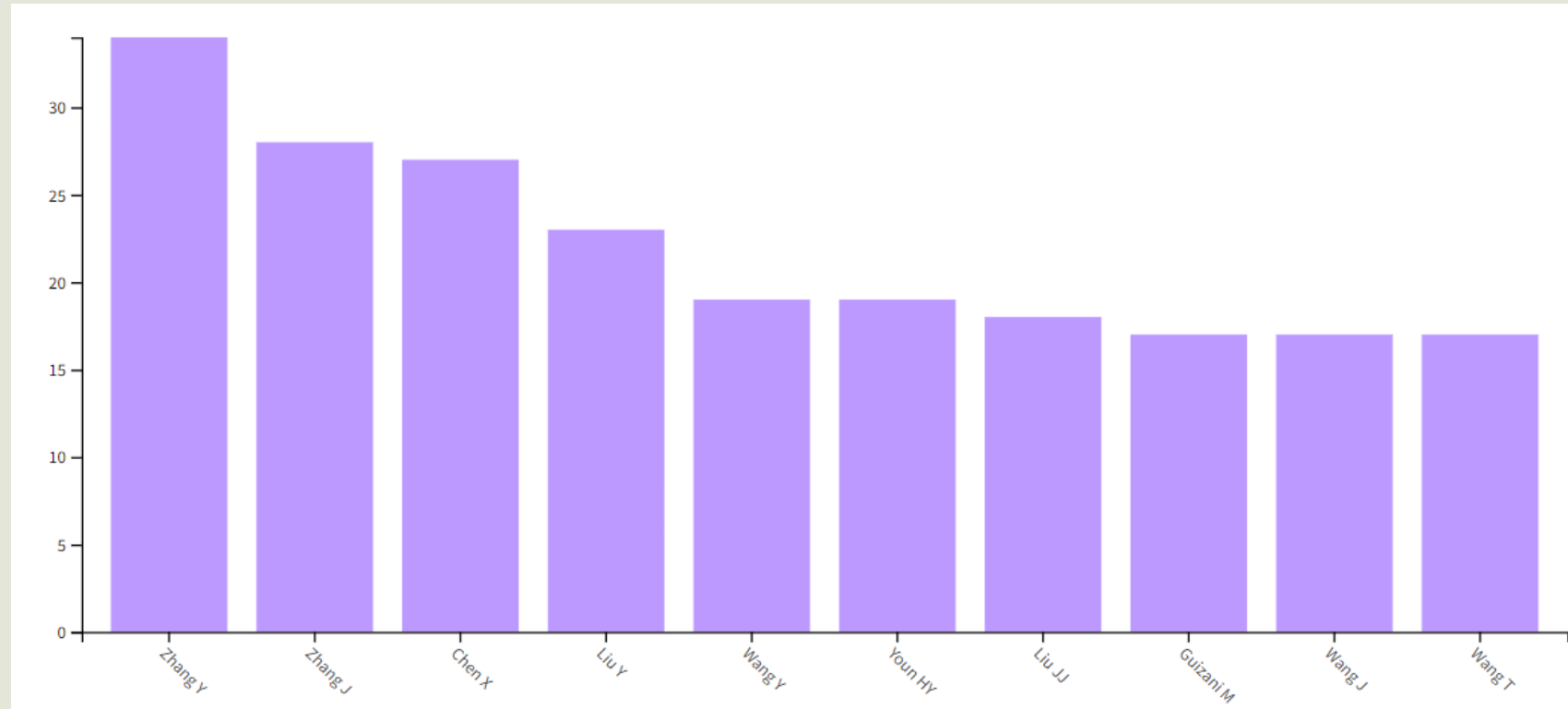
Results – RQ3

Which authors are leading the EC-IoT study?

Author	Documents	Citations
zhang, yan	23	2174
youn, hee yong	19	83
liu, jiajia	17	773
guizani, mohsen	17	457
rodrigues, joel j. p. c.	16	366
wang, tian	16	556
al-turjman, fadi	16	206
chen, xu	15	683
hossain, m. shamim	15	450
liu, anfeng	14	629

Author ranking table generated in Vos Viewer and bar plot extracted from the Web of Science platform.

Results – RQ3

Which authors are leading the EC-IoT study?

This figure is a visualization of citation density of authors in related works generated in Vos viewer. Areas with greater intensity of yellow represent frequently cited authors.
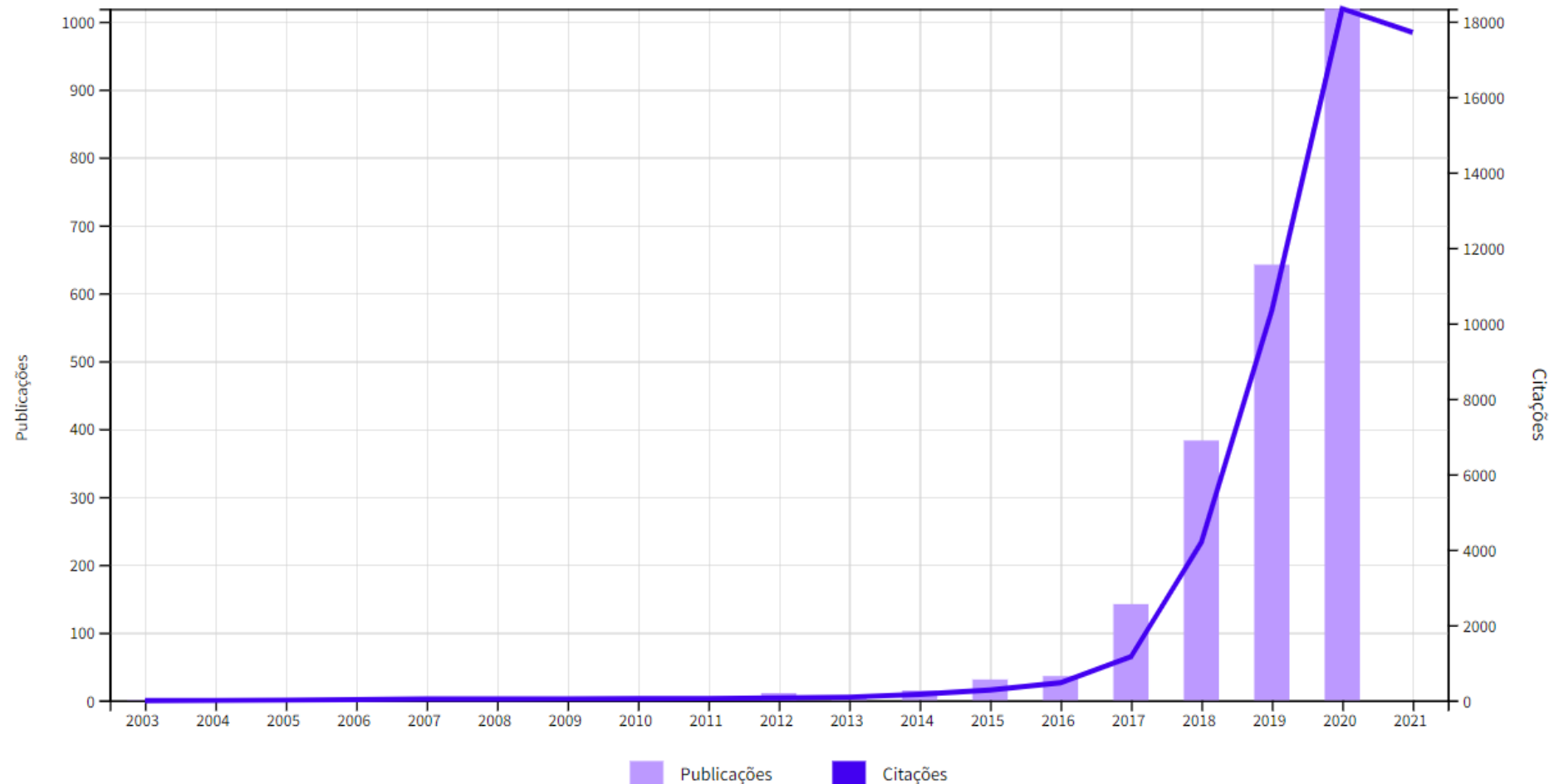
Results – RQ4

What is the evolution of EC-IoT research field?

Graph showing the annual evolution of publications and citations. This graph is generated directly on the Web of Science platform.

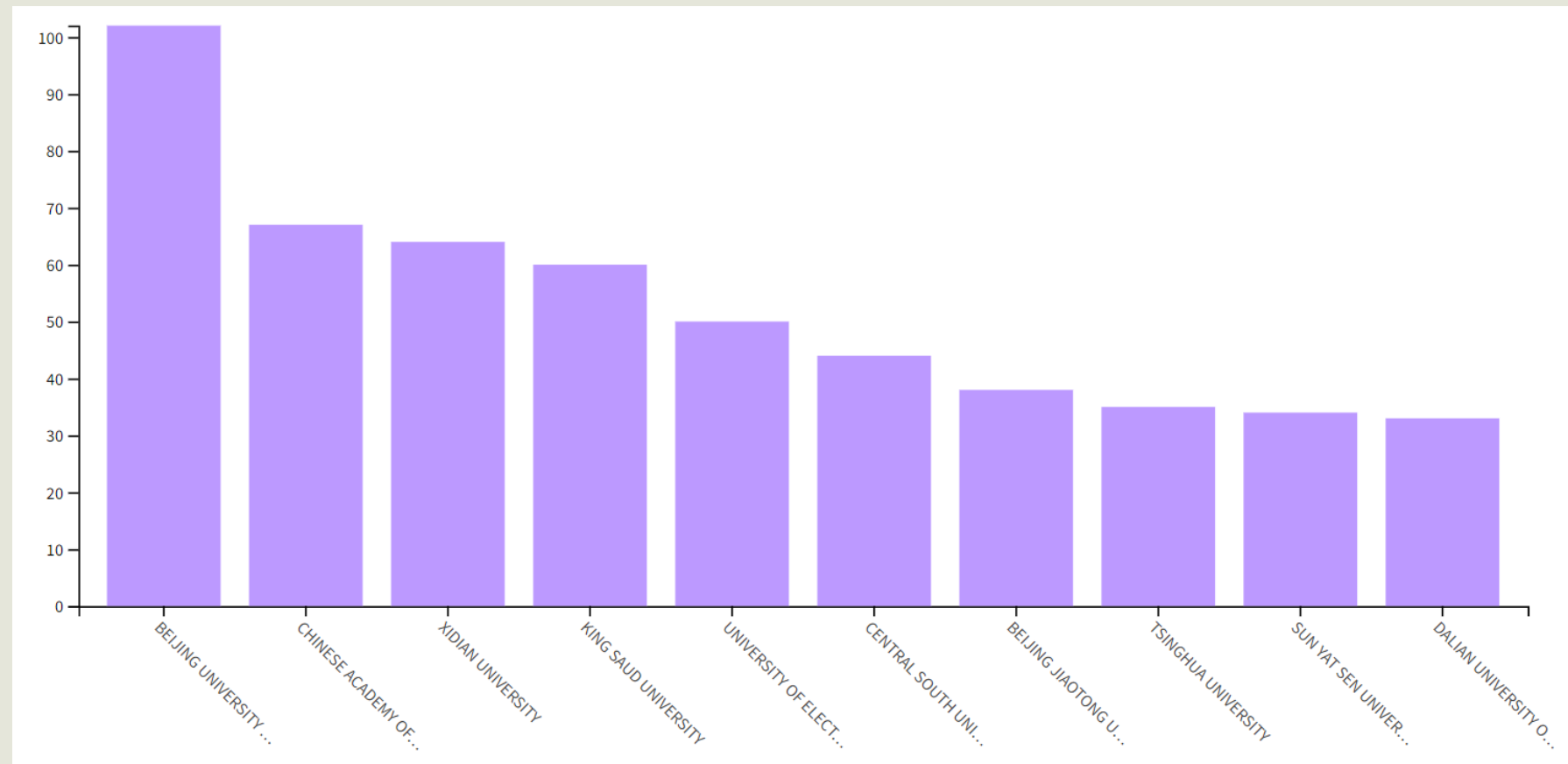Número de citações e publicações ao longo do tempo

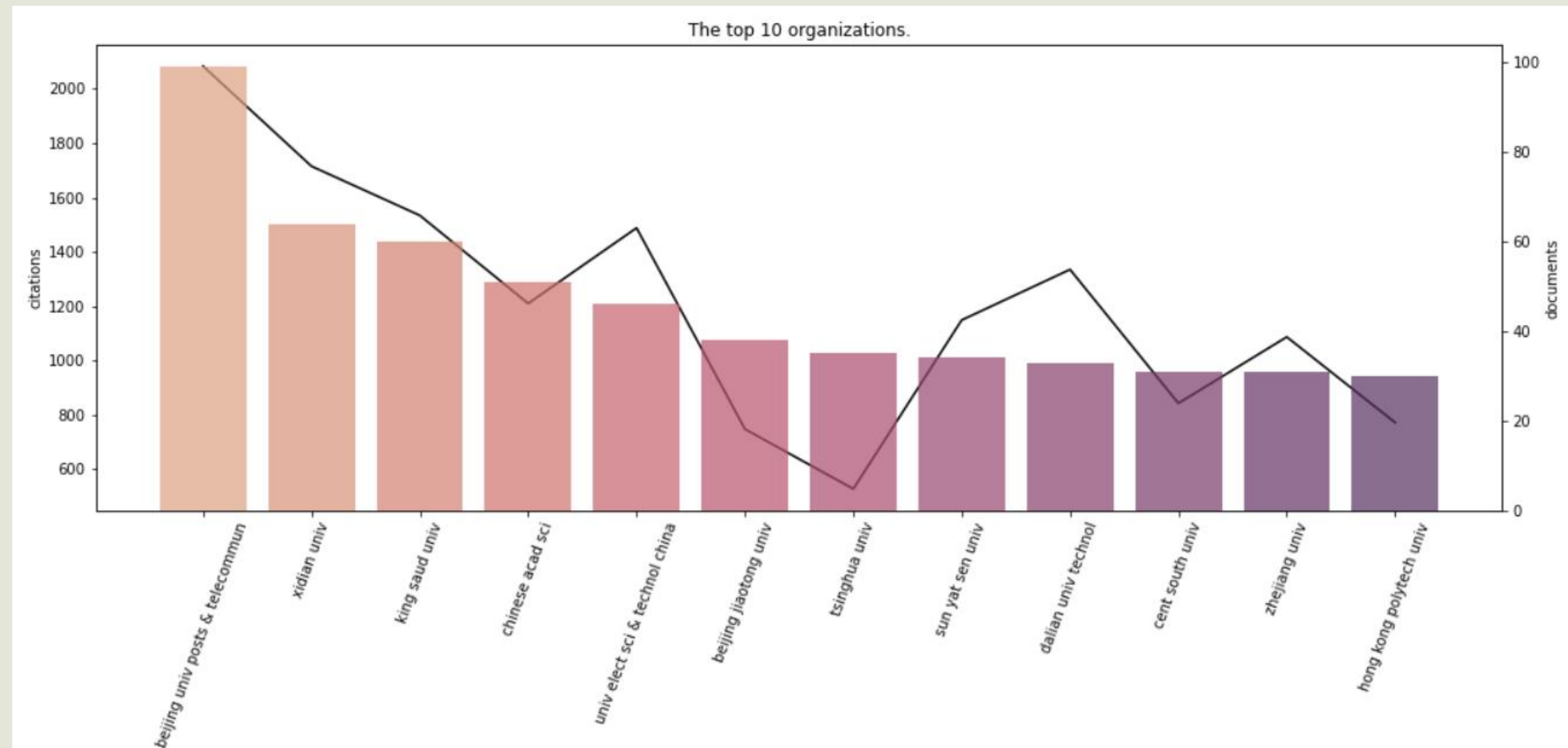# Results – RQ5

What are the main research institutions?

Analysis of institutions that research the most on the subjects mentioned in the article. Graphic generated on the Web of Science platform.

Results – RQ5

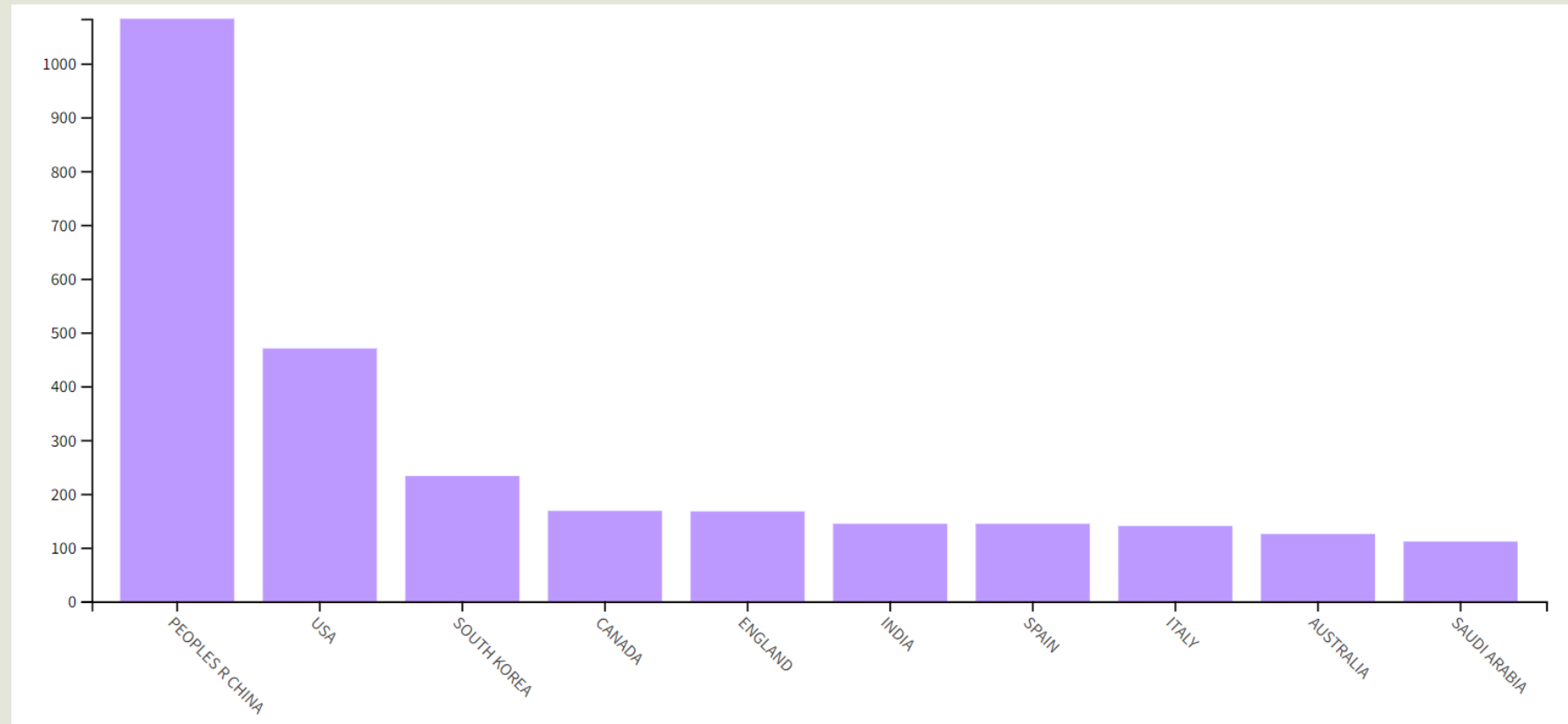**What are the main research institutions?**

This chart shows the same analysis as in question 5, but done using Python and adding the index of citations related to these Institutions. Thus, it can be seen that some institutions, even with fewer publications, have a good rate of citations.

The top 10 organizations.

Results – RQ6

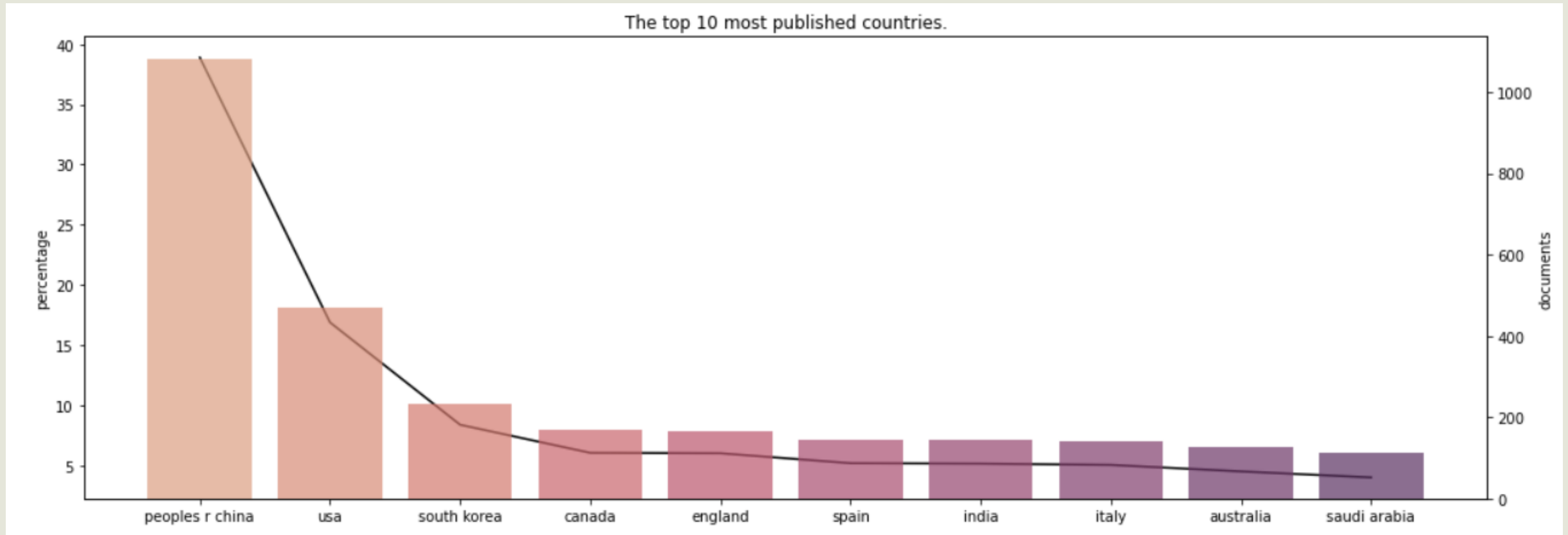**What is the research status of EC-IoT in countries/ regions around the world?**

Analysis of publications in relation to origin country.
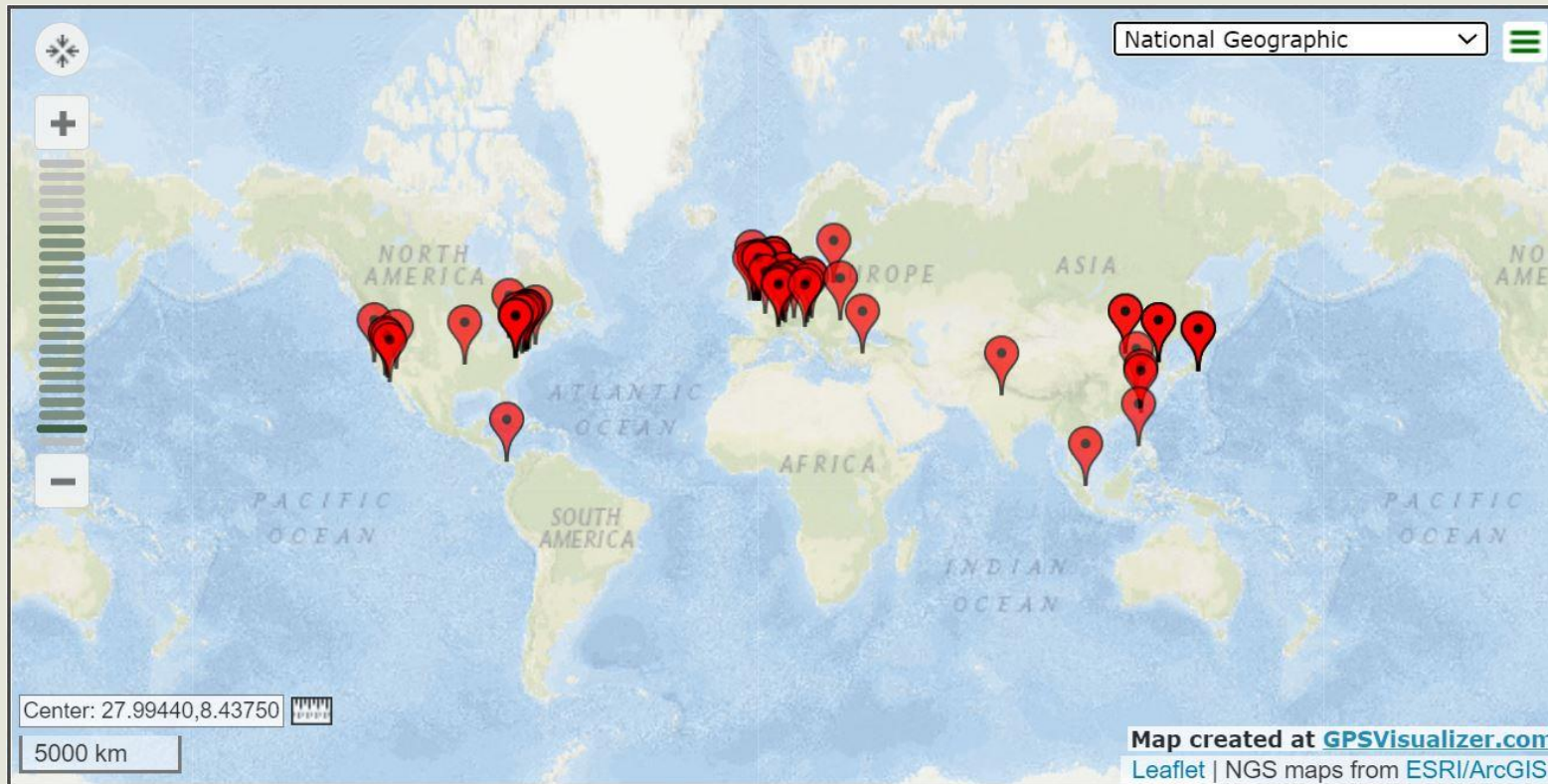Graphic generated on the Web of Science platform.

Results – RQ6

This graph shows the same analysis as in question 6, also done using Python and adding the percentage of documents published by each country in relation to the total documents in the database.

The top 10 most published countries.

Map – RQ6

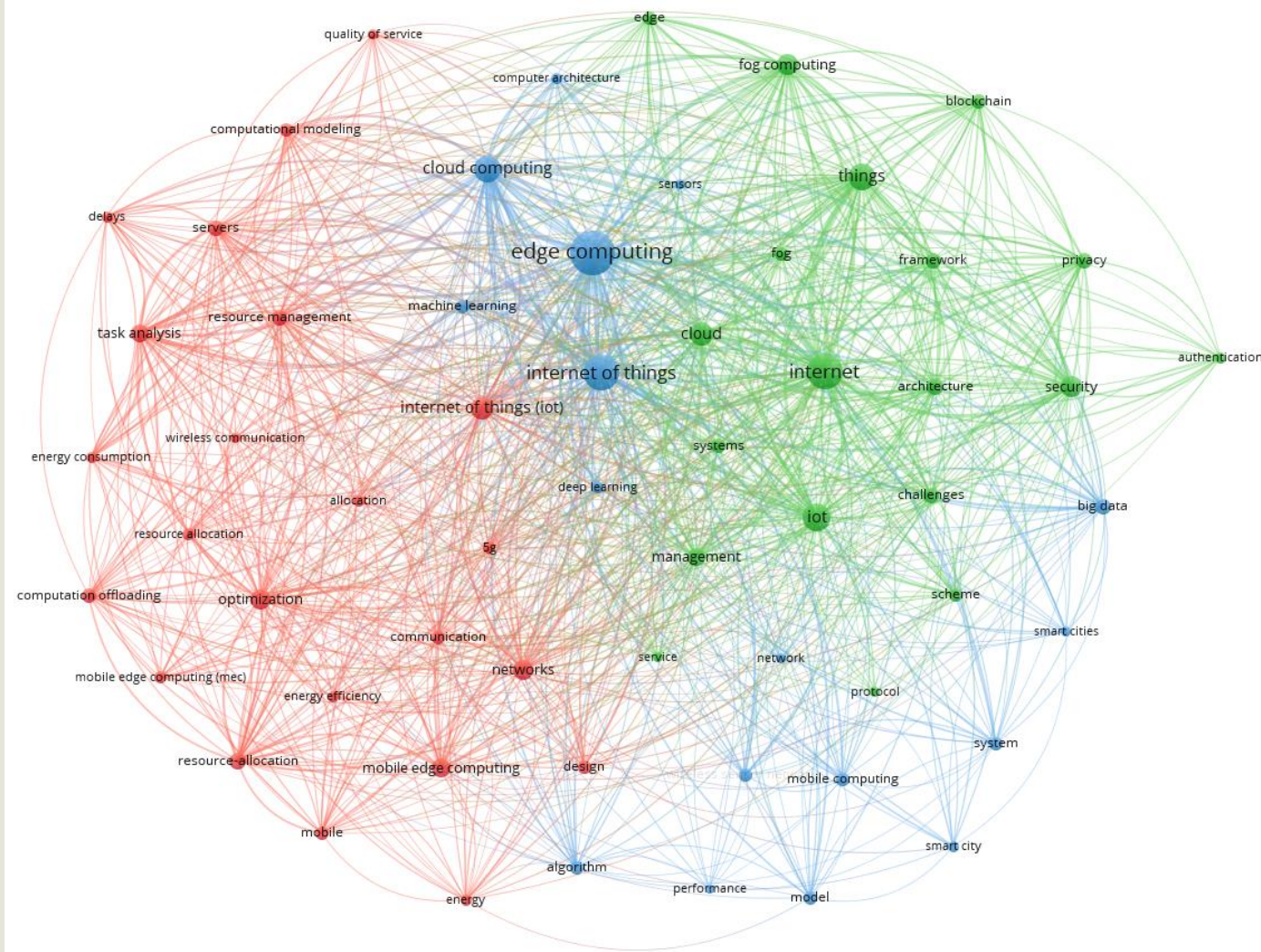**What is the research status of EC-IoT in countries/ regions around the world?**

This map was generated with the GPSVisualizer.com tool and using the publication addresses in the database collected in the Web of Science platform. In this way, it could be easily reproduced with the coordinates of authors' addresses.

Results – RQ7

What are the EC-IoT hot spots?

This figure is a visualization of the keyword co-occurrence network of articles in the database. The keywords were automatically organized by the Vos viewer tool into 3 clusters with similar themes: general architecture, related problems and difficulties, and applications.

Thanks!

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