RIPE NCC
RIPE NETWORK COORDINATION CENTRE

Country View On Iran

Christian Teuschel | April 2018 | MENOG 18 Teheran

Statistics

- Statistics are important
  - They help to inform business decisions, influence regulatory policies, etc.
- The RIPE NCC provides essential data sets
  - RIPE Database
  - Routing Information System (RIS; http://ris.ripe.net)
  - RIPE Atlas (https://atlas.ripe.net)
- Access to all data via RIPEstat
  - https://stat.ripe.net

RIPE NCC
RIPEstat

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Open Data API for Internet related data

+55 million daily requests

Hardly any usage limitations

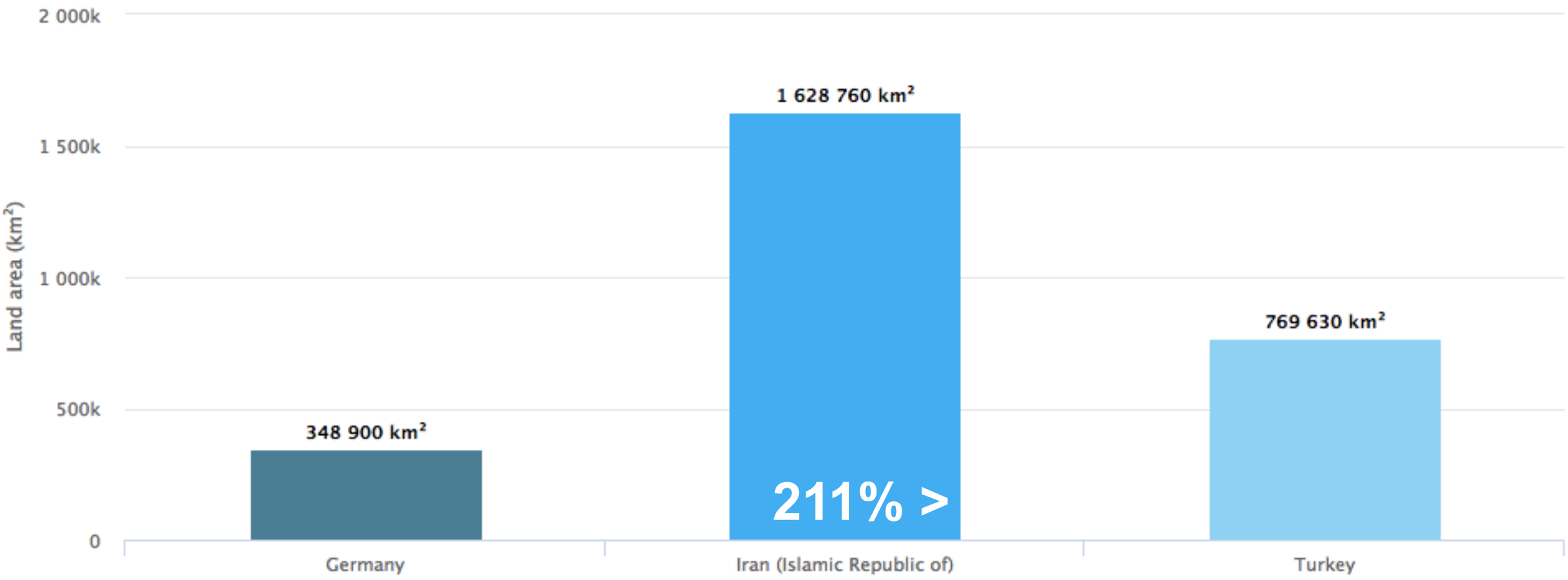
RIPE NCC
RIPEstat

Country View

Iran and Comparative Context

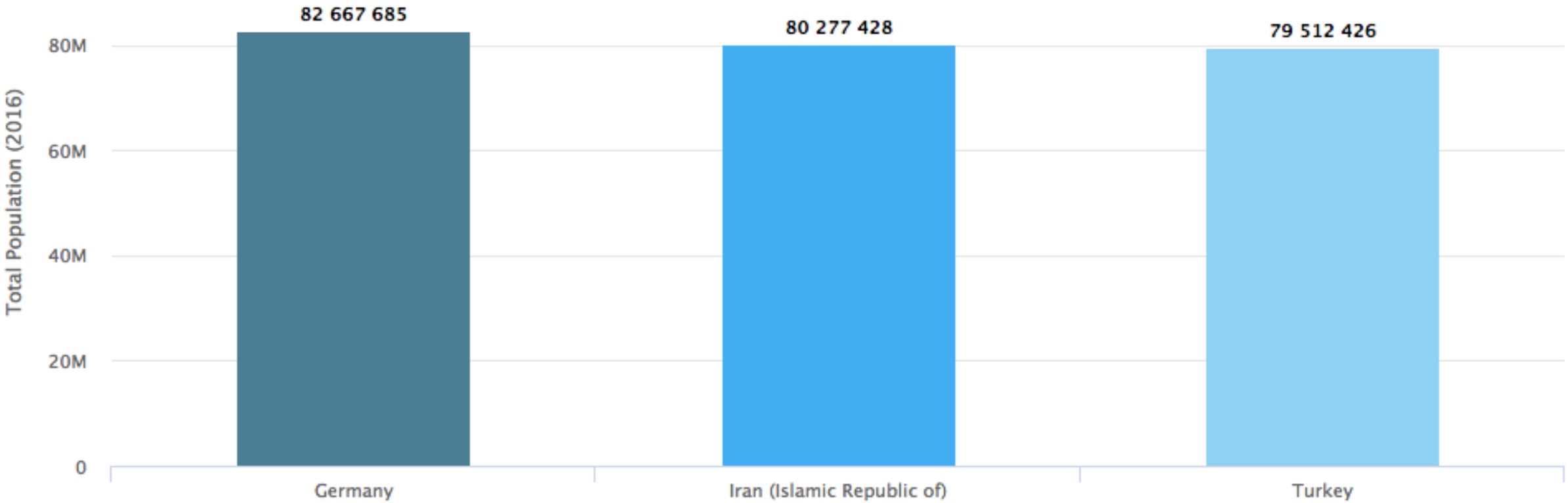
Iran and Comparative Context

Land Area



Source: http://worldbank.org

Population

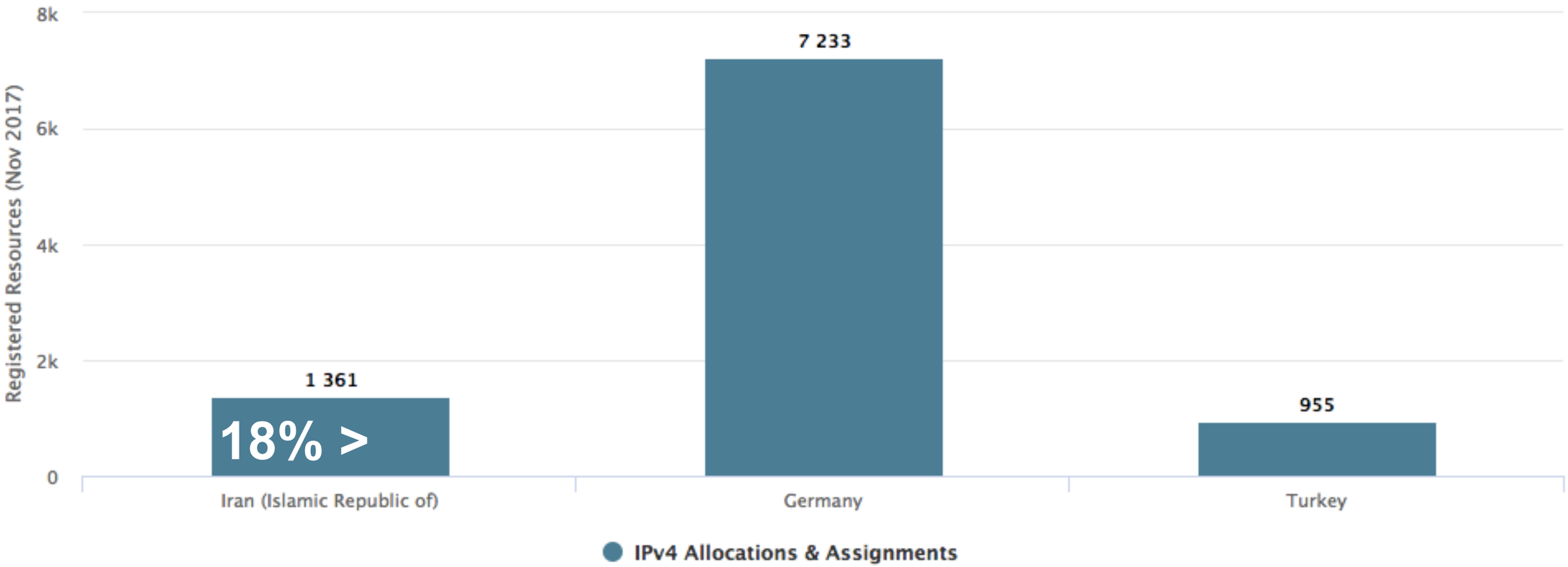


Source: http://worldbank.org

IPv4 Depletion

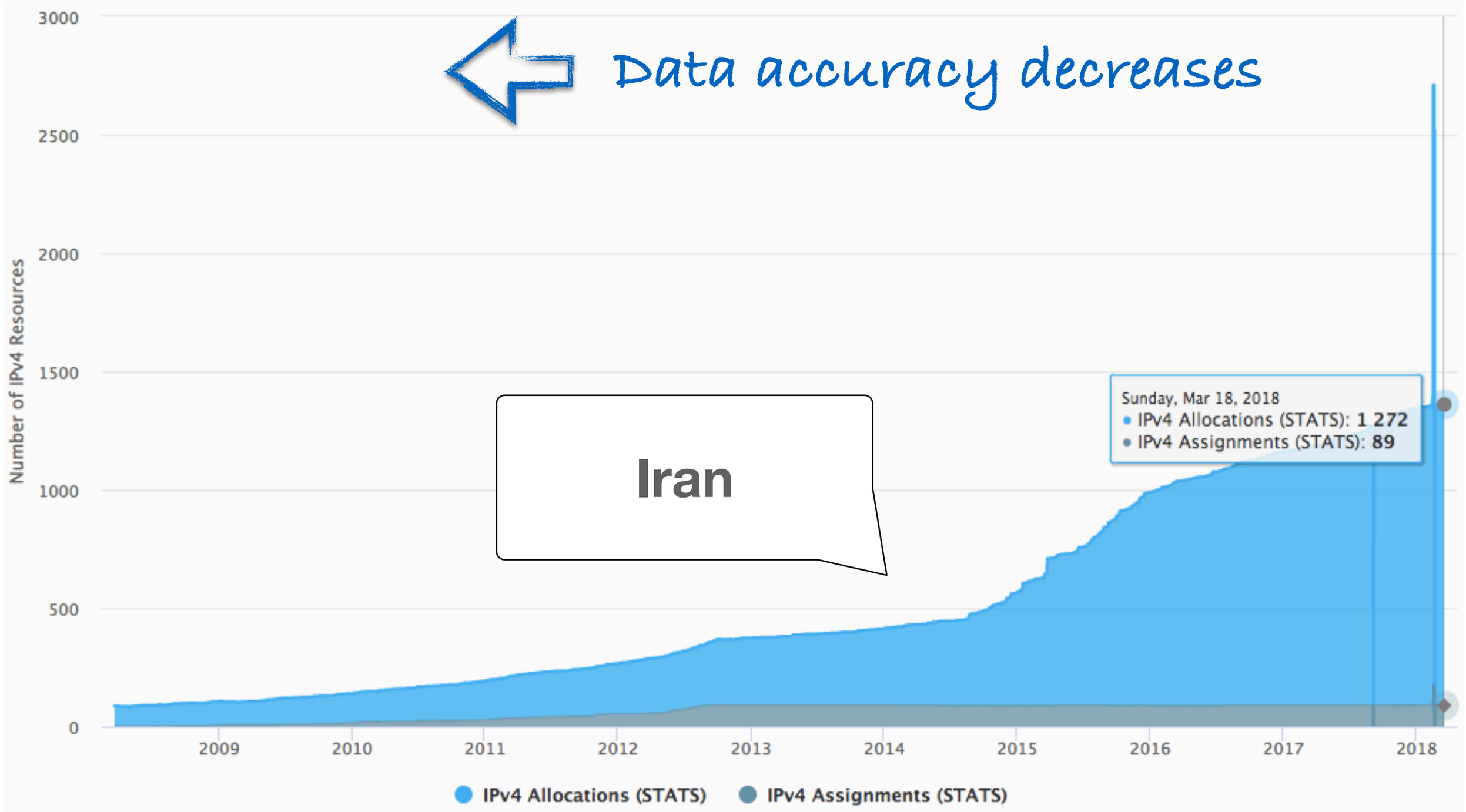
Iran and Comparative Context

Registered IPv4 Resources



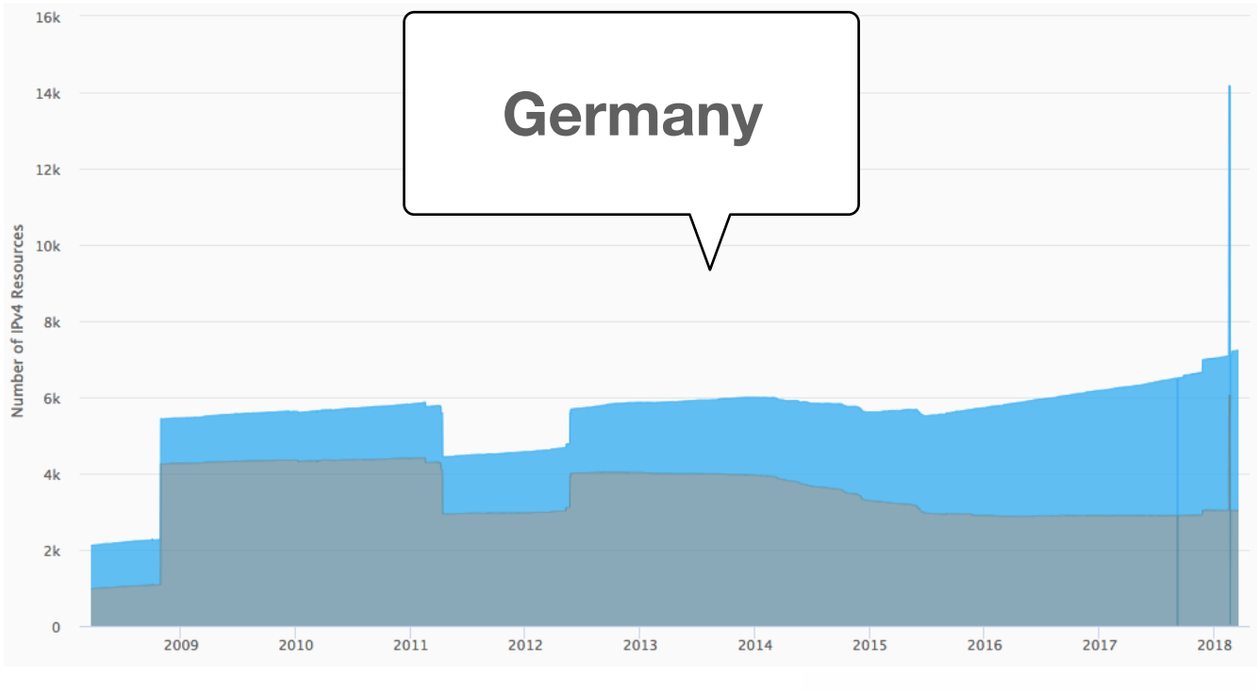
Source: https://stat.ripe.net

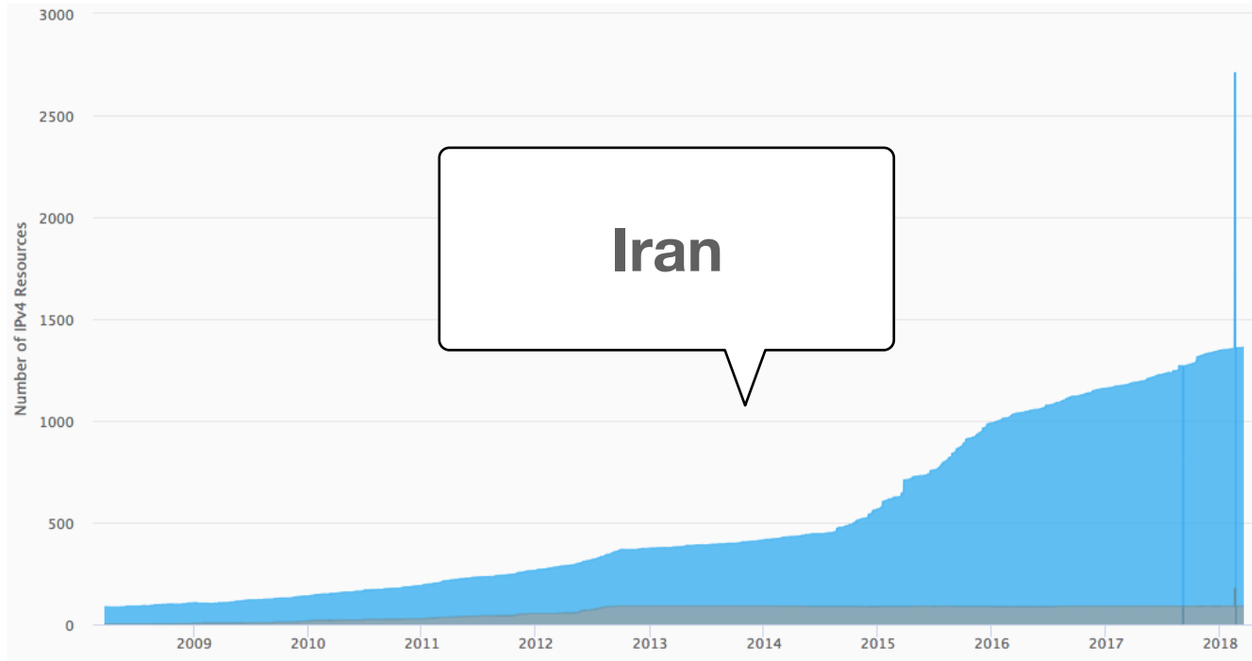
Registered IPv4 Resources

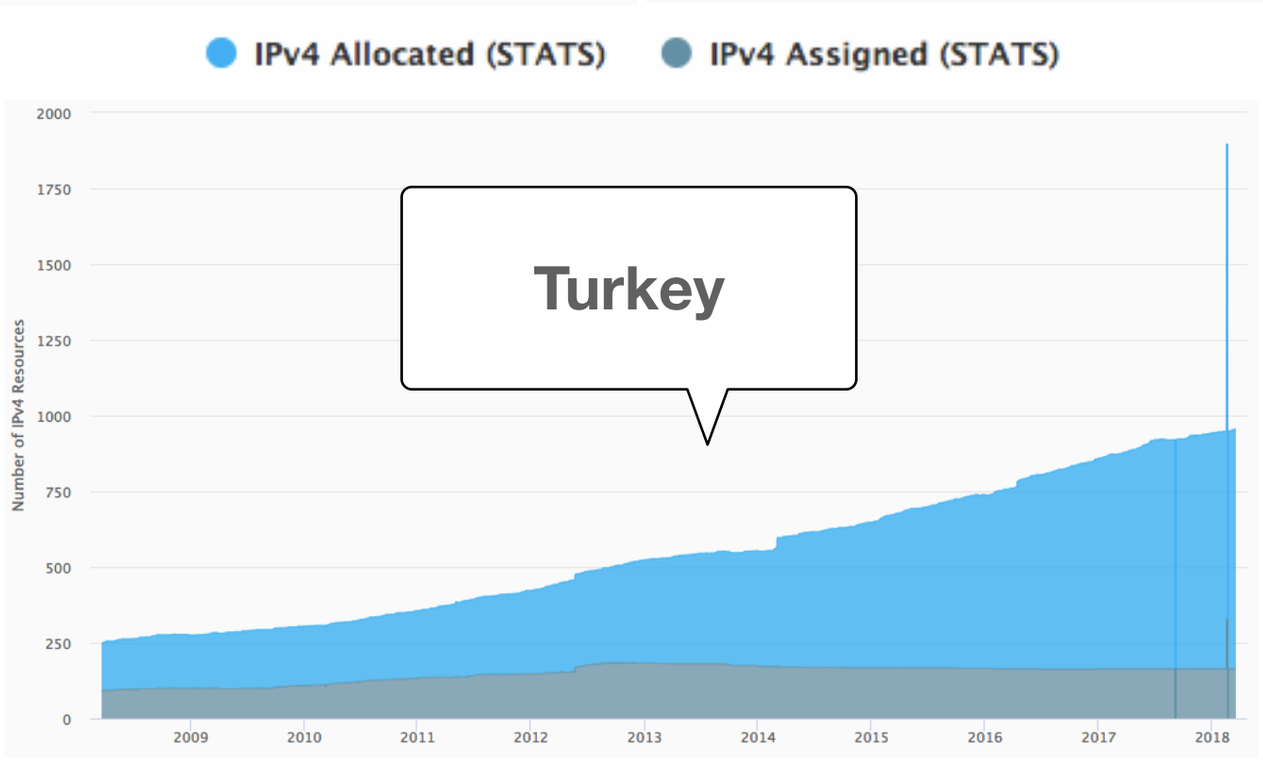


Source: https://stat.ripe.net

Registered IPv4 Resources

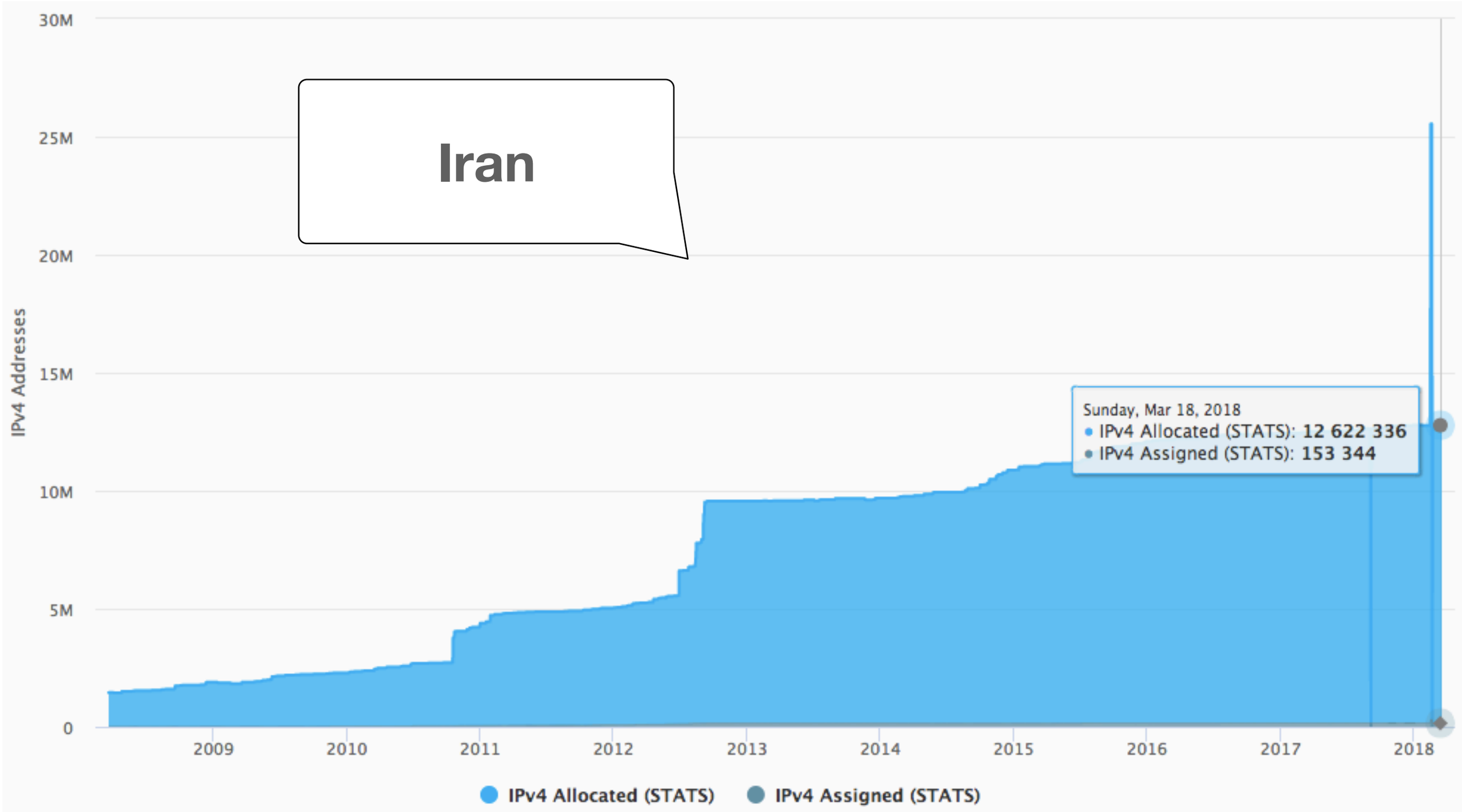






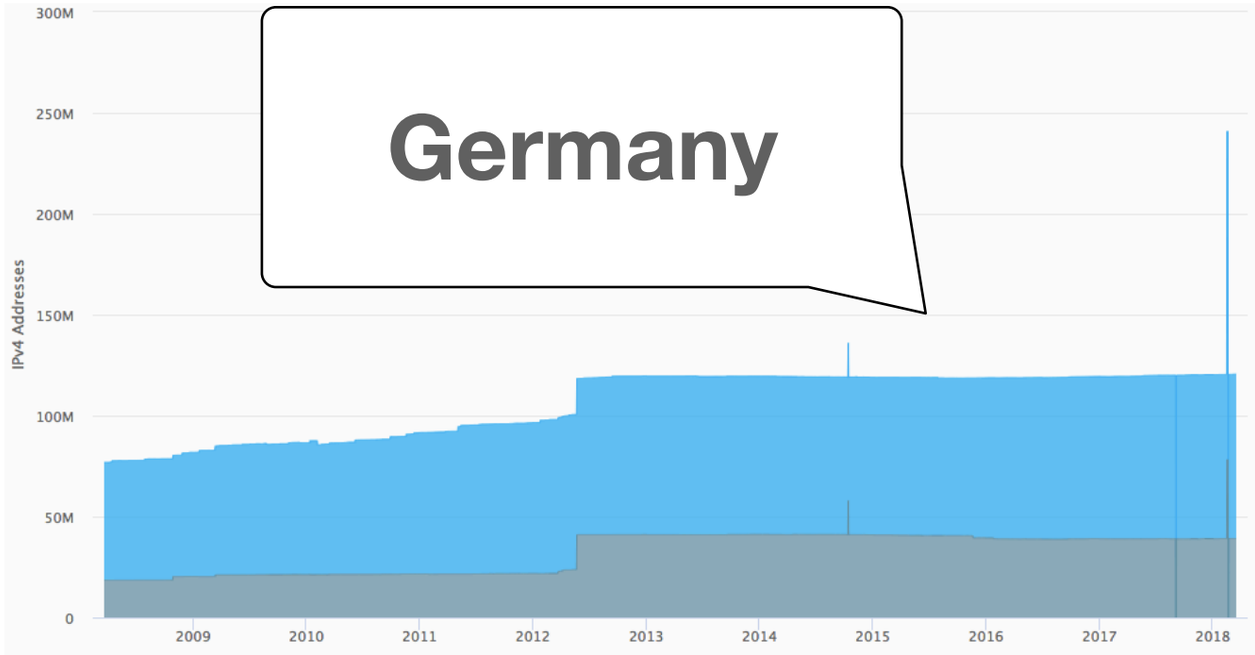
Source: https://stat.ripe.net

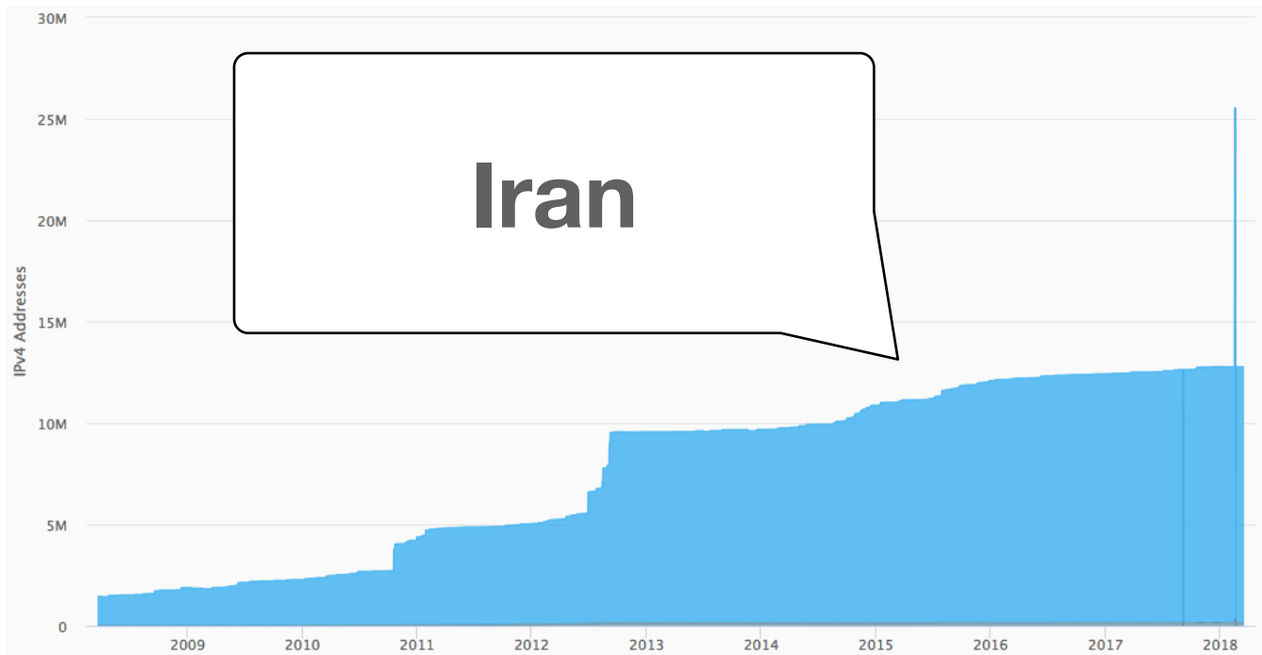
Registered IPv4 Space

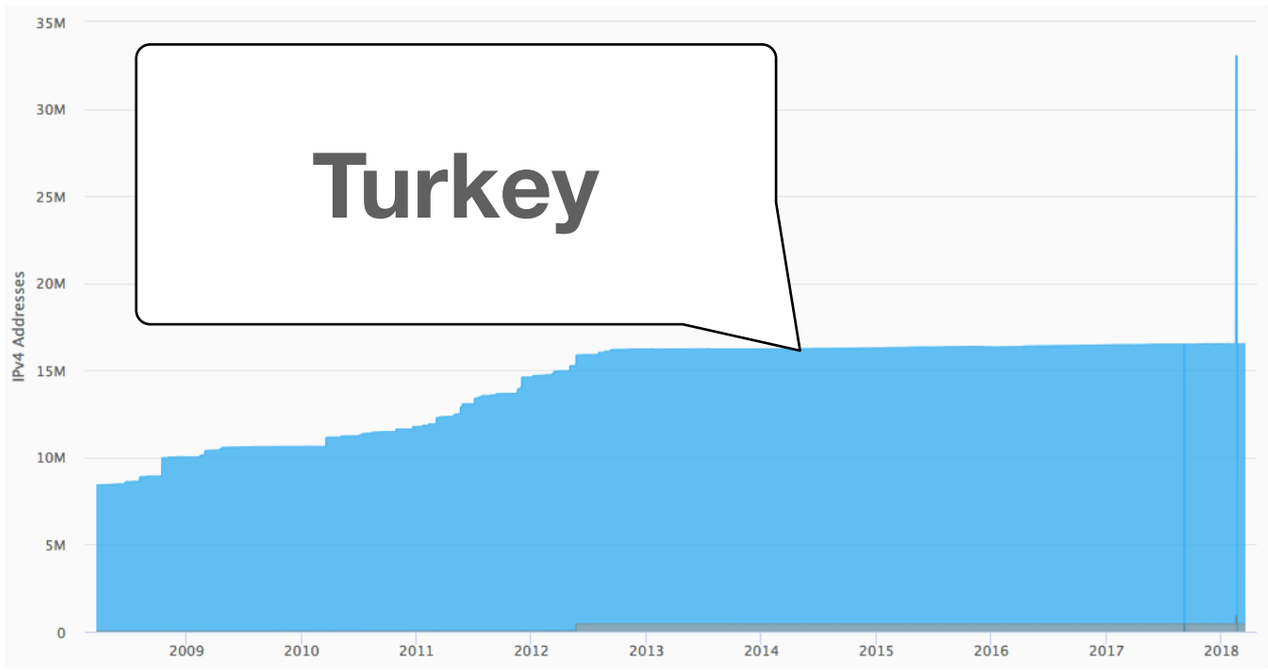


Source: https://stat.ripe.net

Registered IPv4 Space



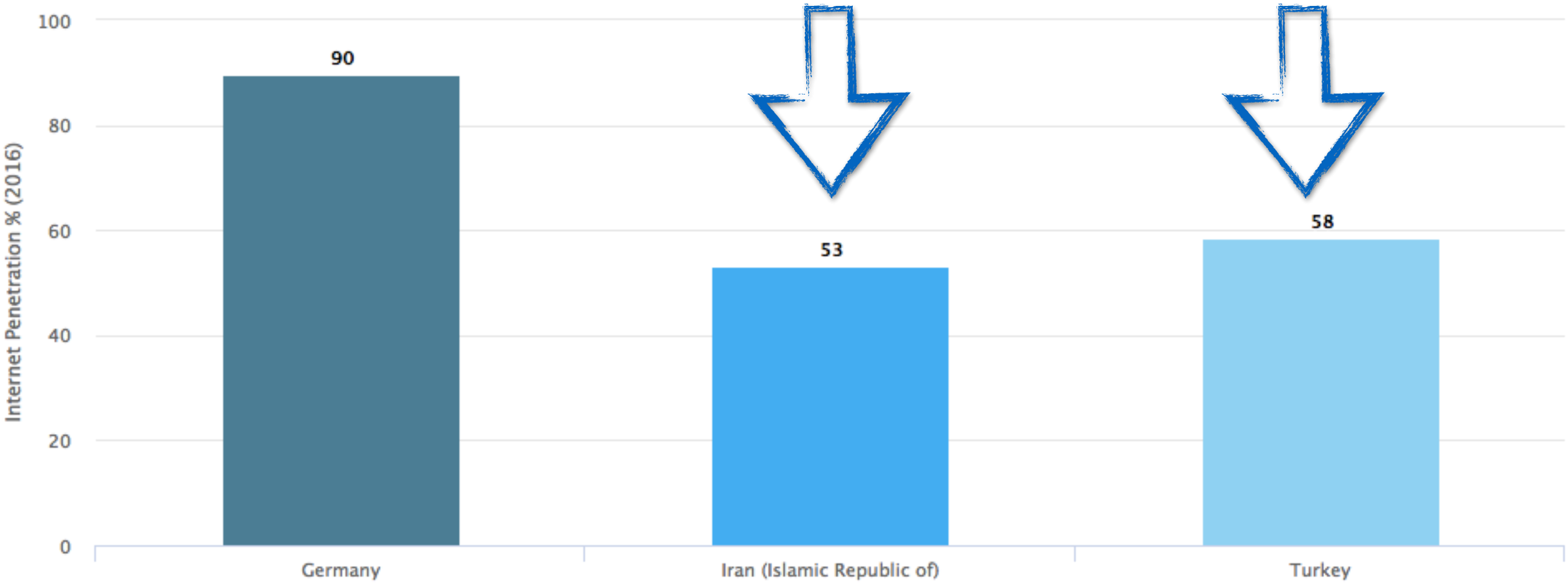




Source: https://stat.ripe.net

Internet Penetration

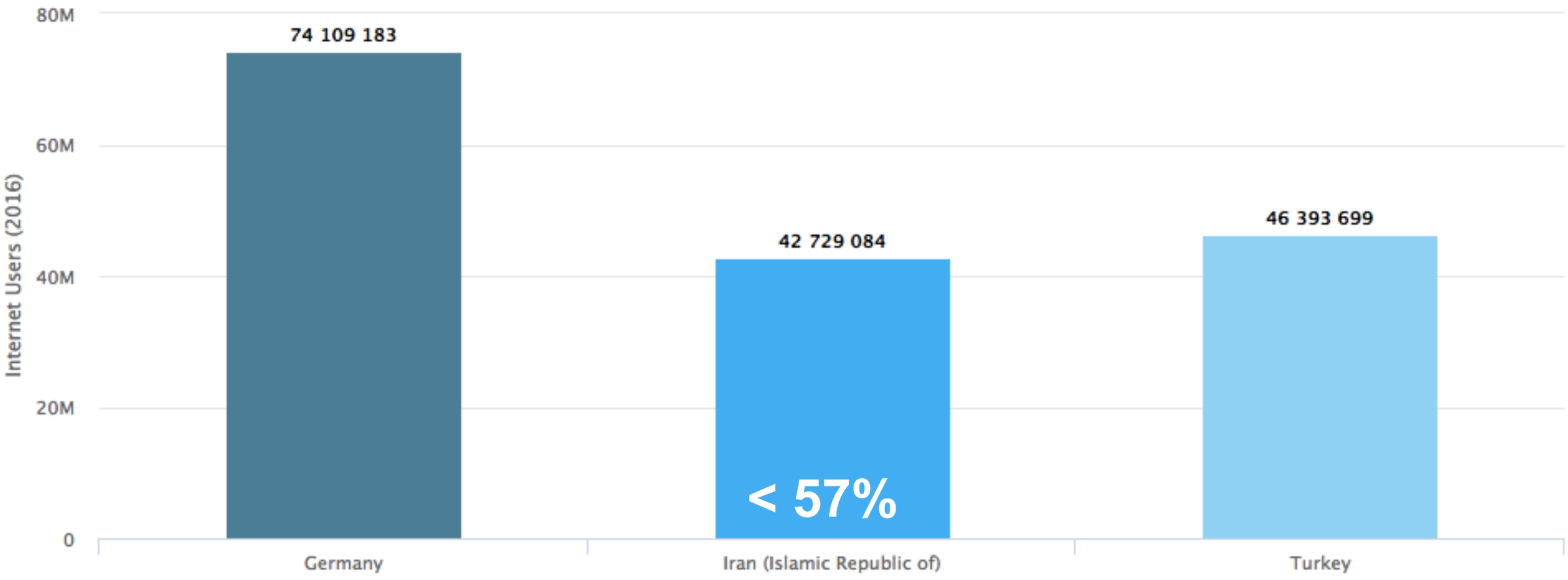
For 2016



Combine with population

Source: http://worldbank.org

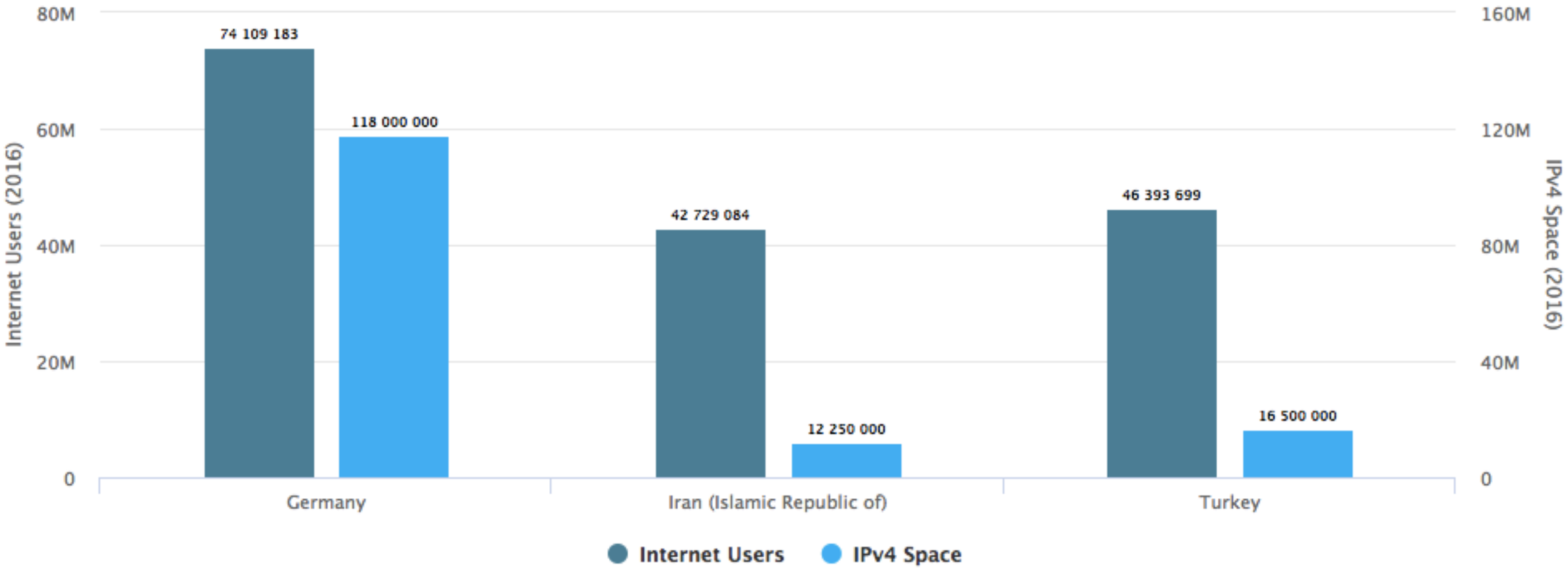
Internet Users



Source: http://worldbank.org

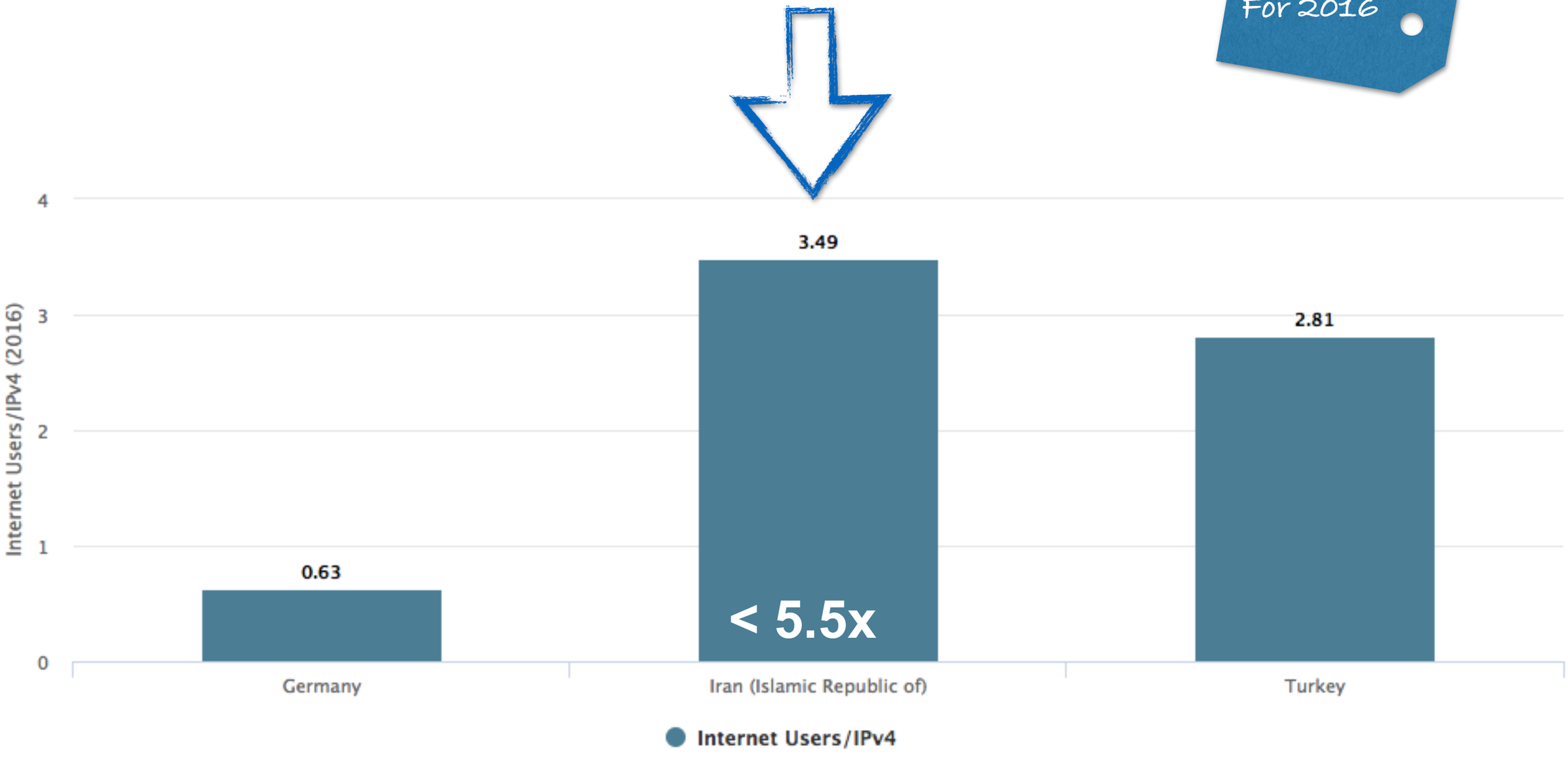
Internet Users and IPv4 Space

For 2016



Source: http://worldbank.org
& https://stat.ripe.net

Internet Users/IPv4 Address



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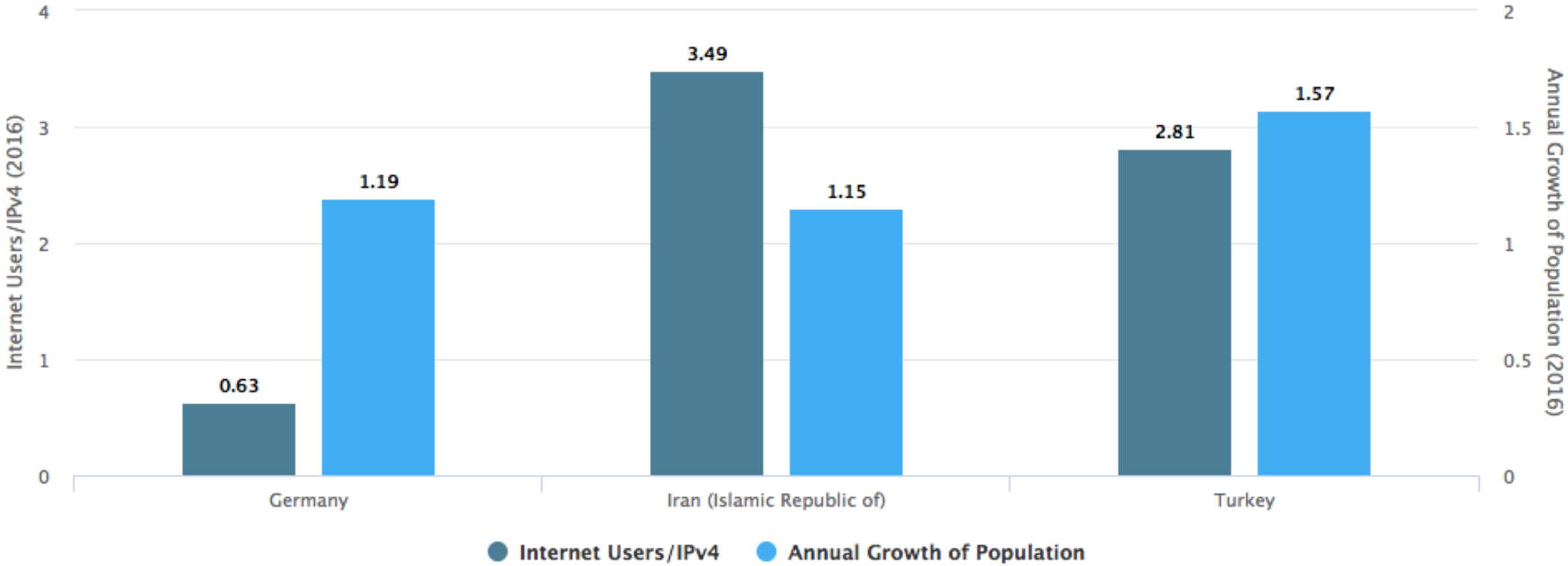
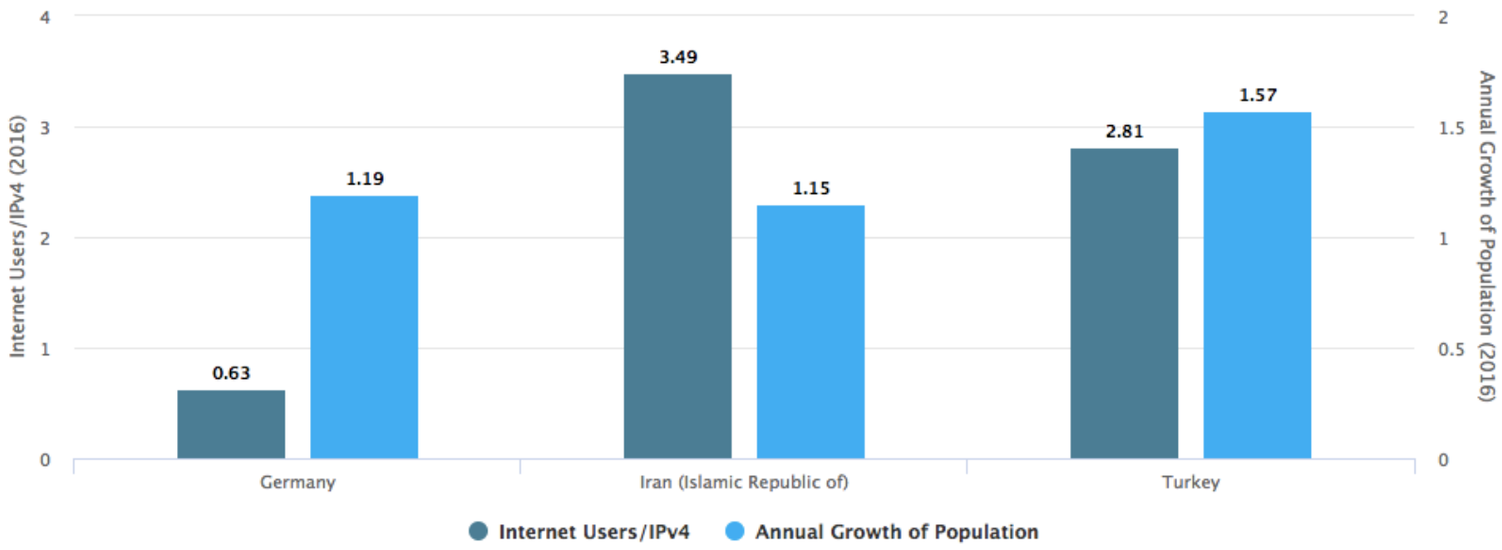
Internet Users/IPv4 Address



Source: http://worldbank.org & https://stat.ripe.net

Internet Users/IPv4 Address

- Conclusion:
  - Iran has the highest IPv4 scarcity in this comparison
  - Data is for 2016 - a fair assumption is that the number of Internet users grew, which makes the situation worse



Source: http://worldbank.org & https://stat.ripe.net

Internet and Economy

Iran and Comparative Context

Internet & Economy

- Study in 2010 by World Bank “Building Broadband : Strategies and Policies for the Developing World”

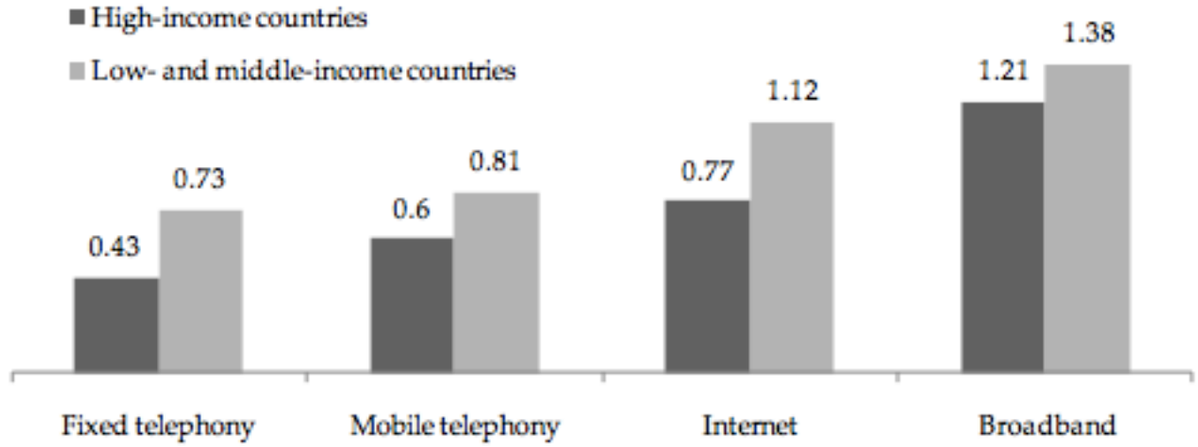
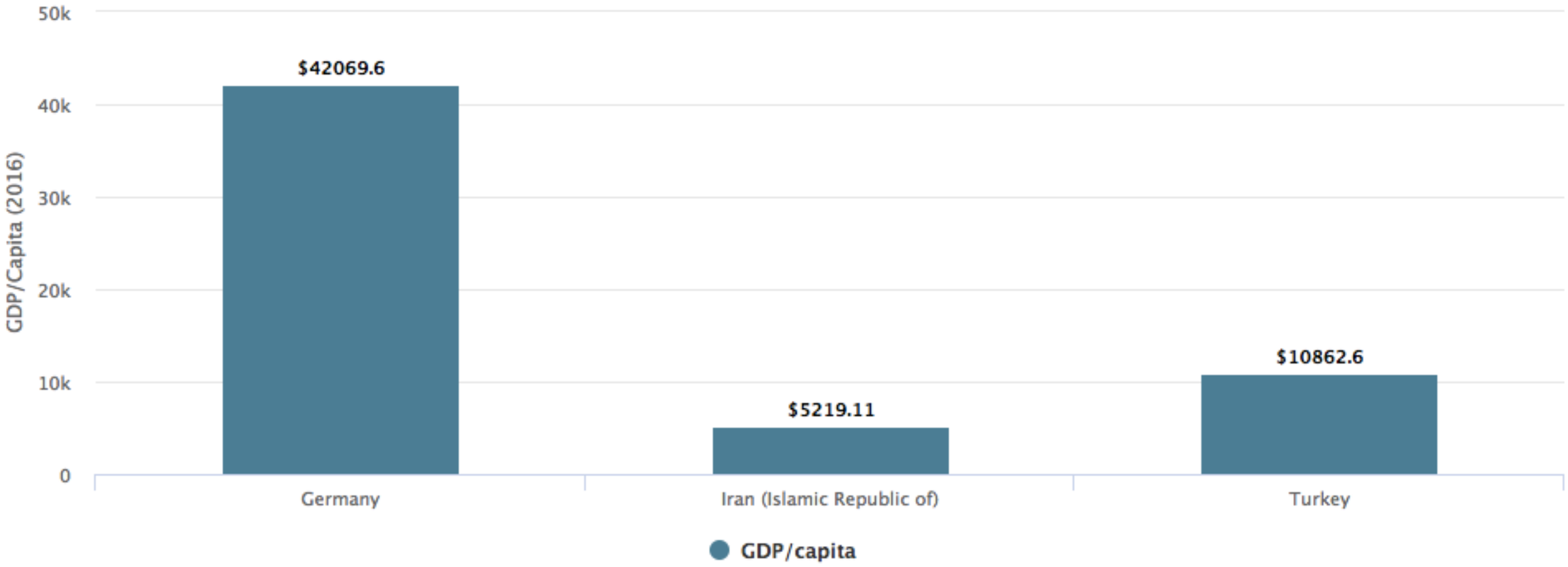


Figure 1: Growth impact of telecommunications
(GDP percentage point increase due to 10 percentage-point increase in penetration)

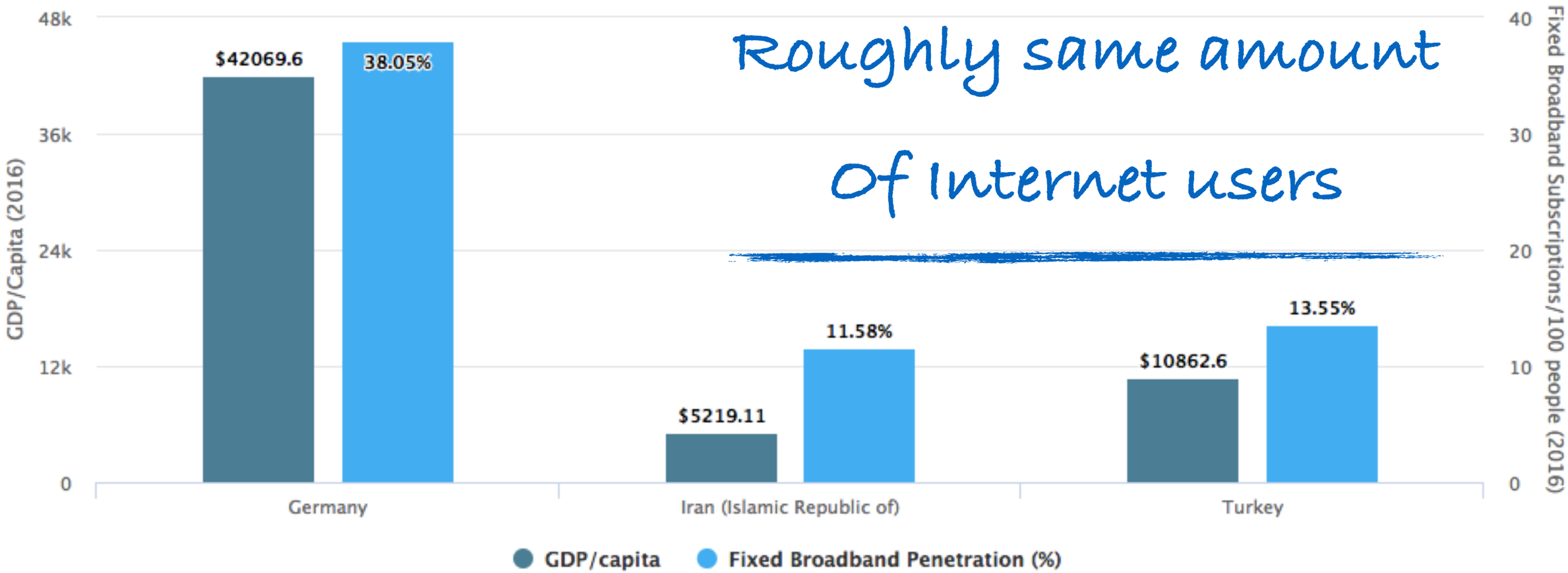
Gross Domestic Product



Source: http://worldbank.org

Broadband Subscriptions and GDP

For 2016



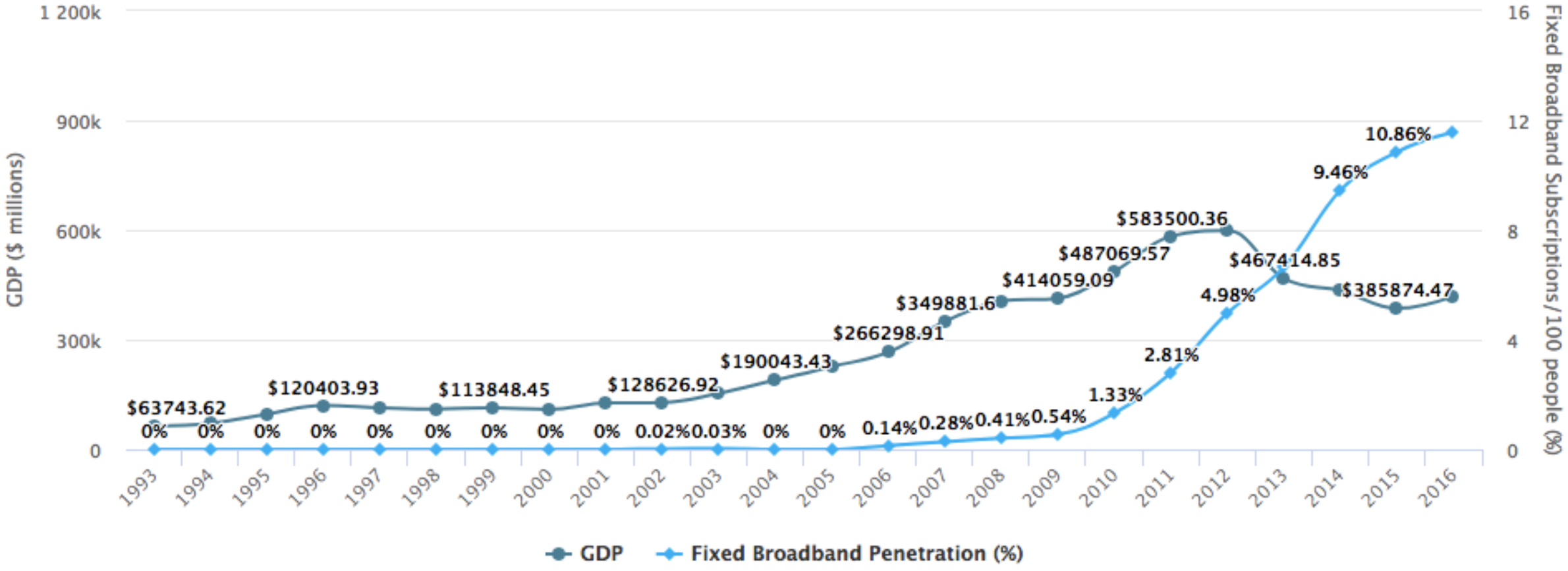
Roughly same amount

Of Internet users

Source: http://worldbank.org

Broadband Subscriptions and GDP

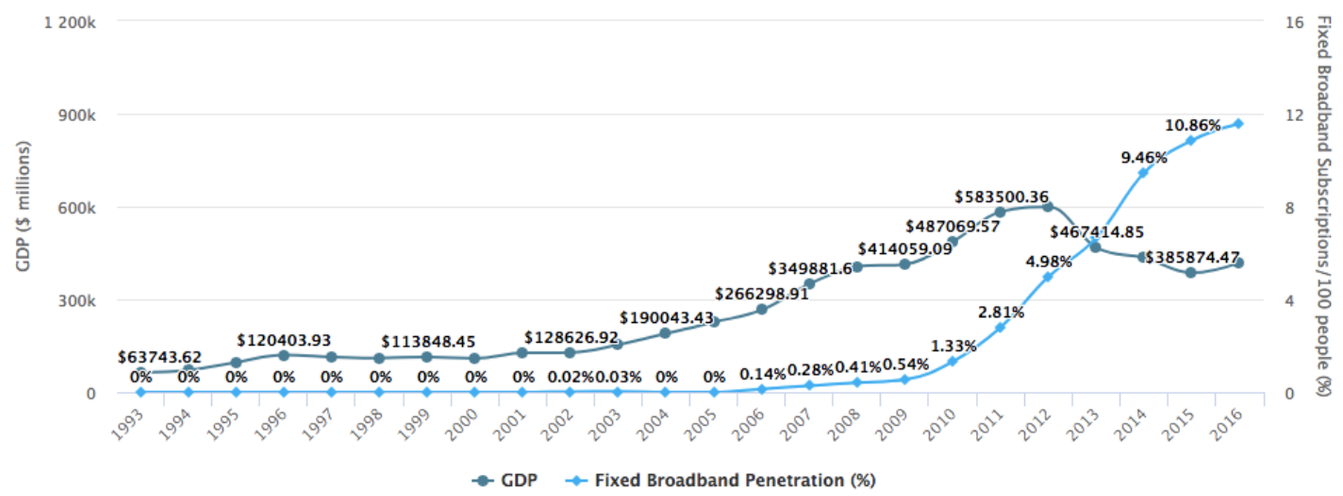
Second Great Contraction (2008 ff.)



Source: http://worldbank.org

Broadband Subscriptions and GDP

- Conclusion:
  - Assumption: broadband penetration has a positive correlation with GDP
  - Iran has the lowest broadband subscription in the comparison and hence opportunity to grow

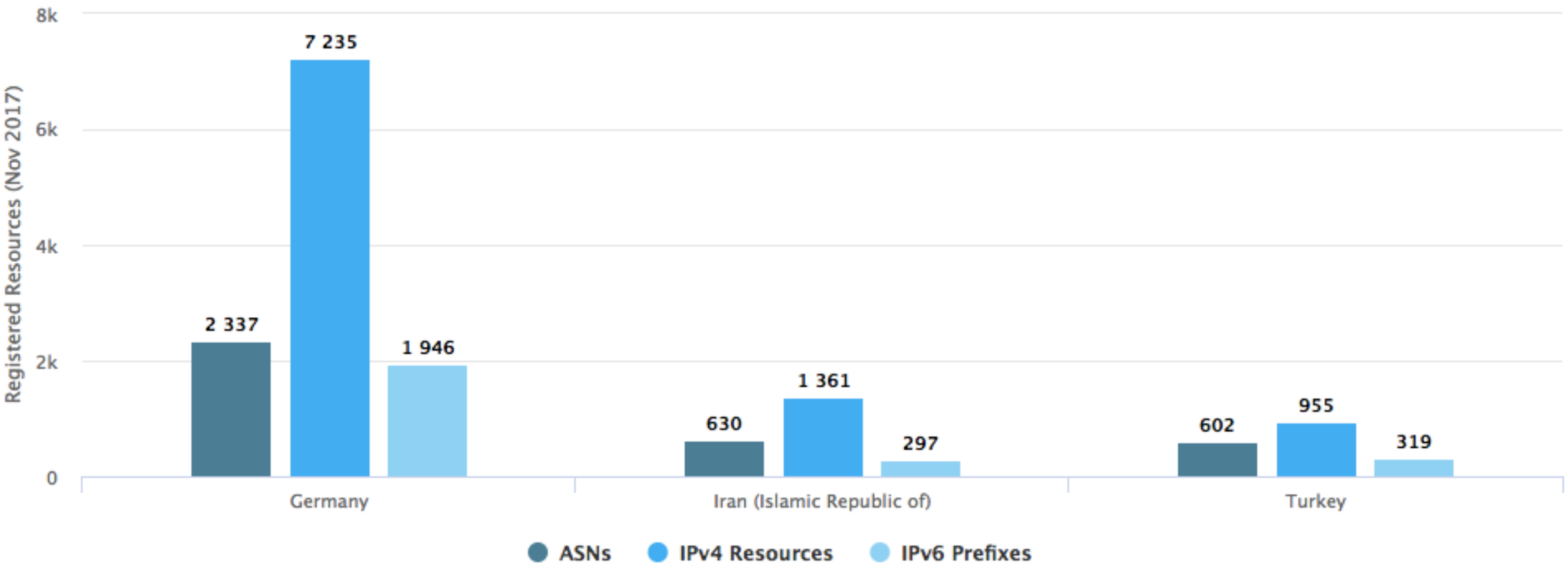


Source: http://worldbank.org

IPv6

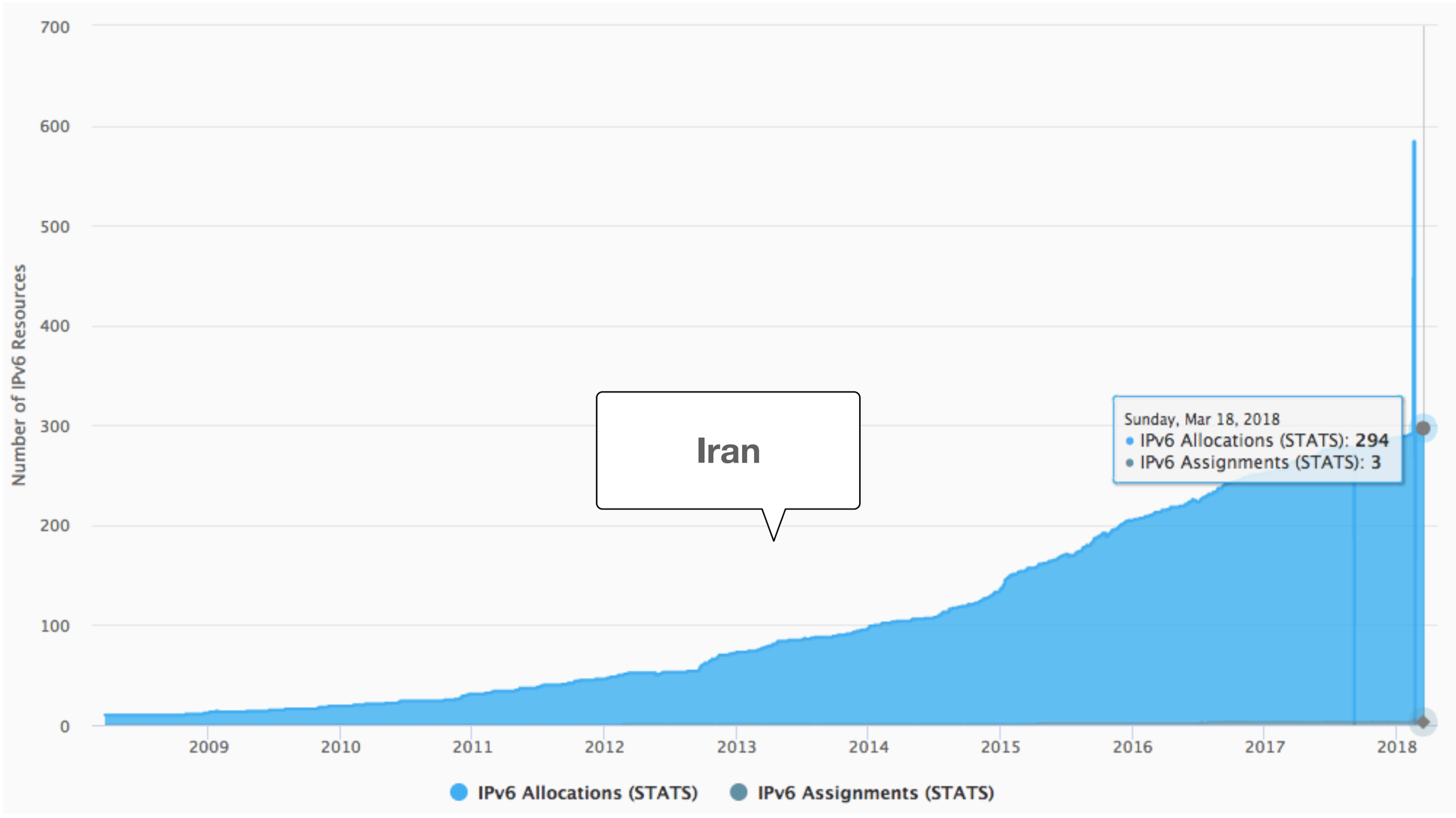
Iran and Comparative Context

Registered Resources



Source: https://stat.ripe.net

IPv6 Resources



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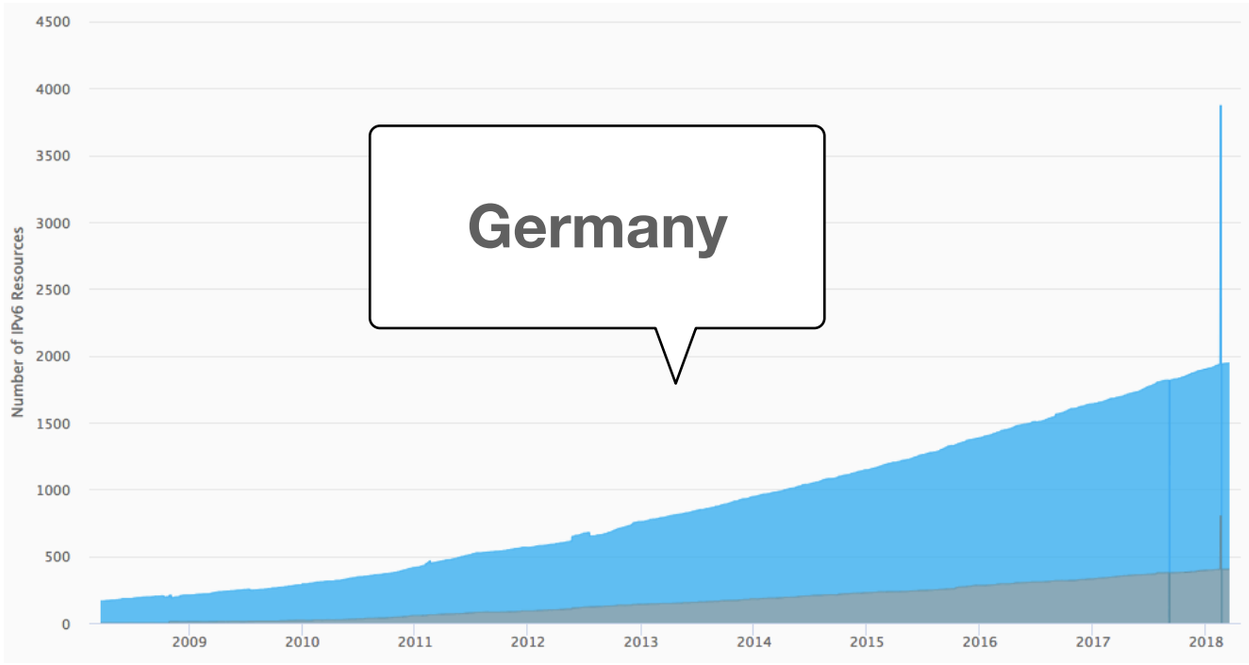
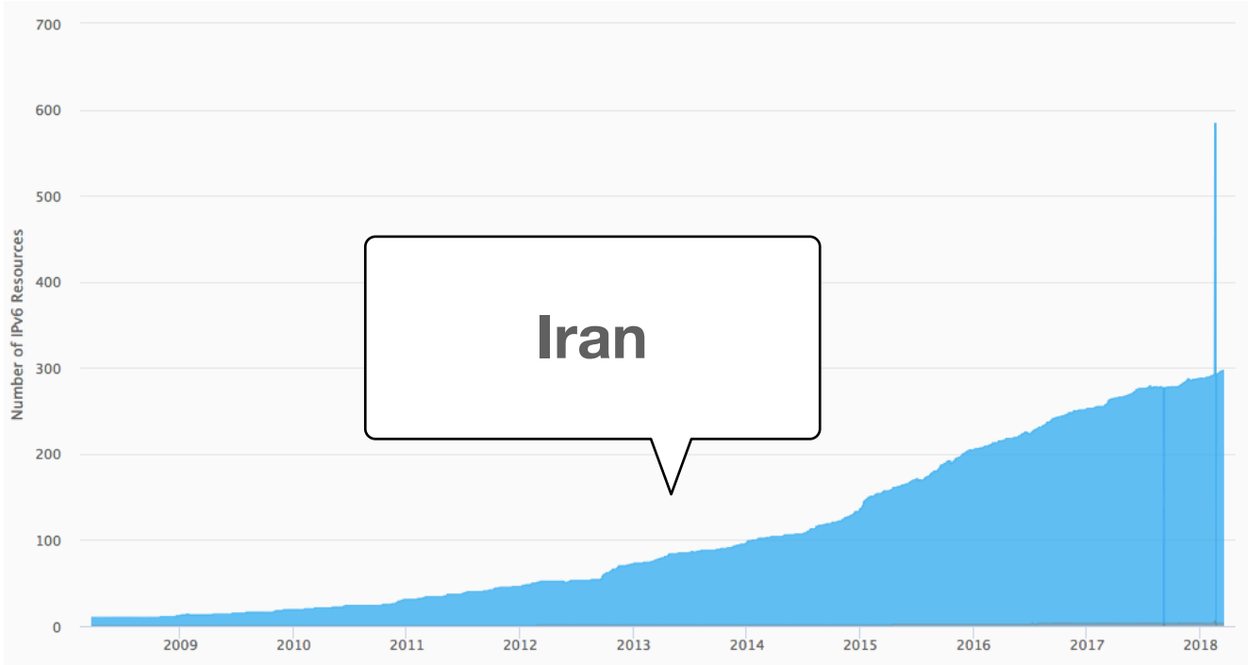
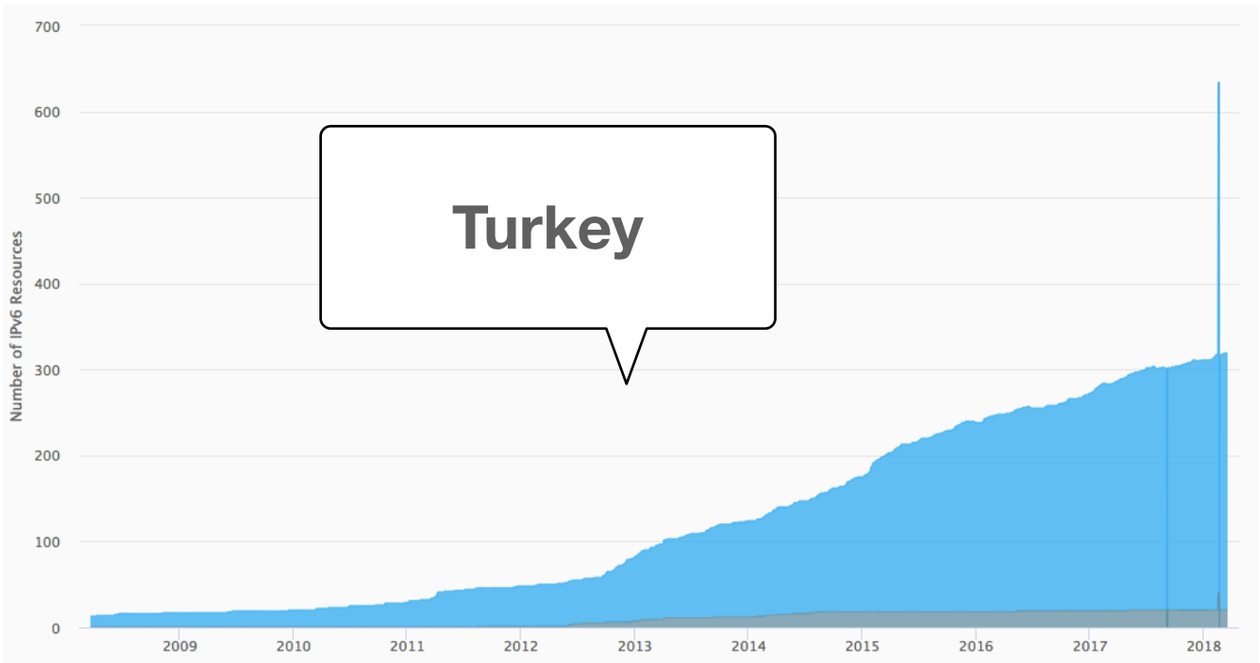
Registered IPv6 Resources







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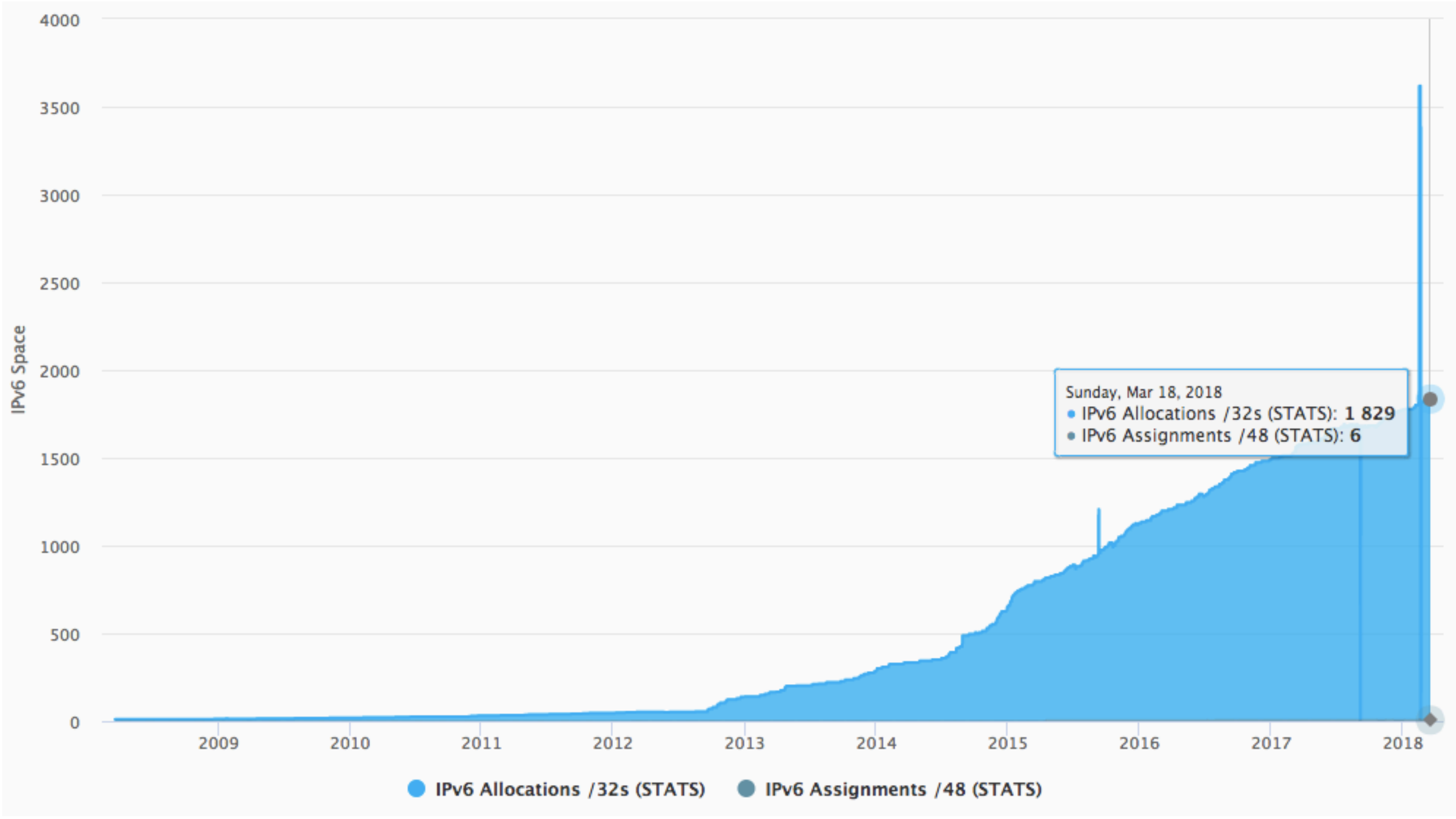
Registered IPv6 Space



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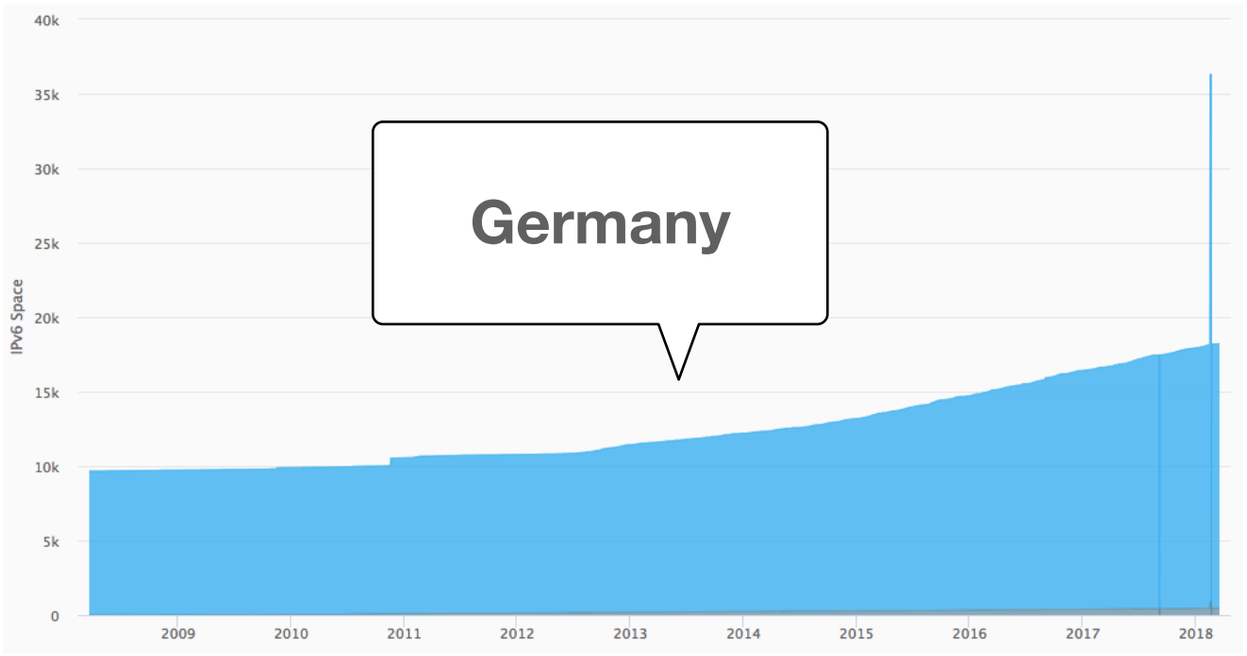

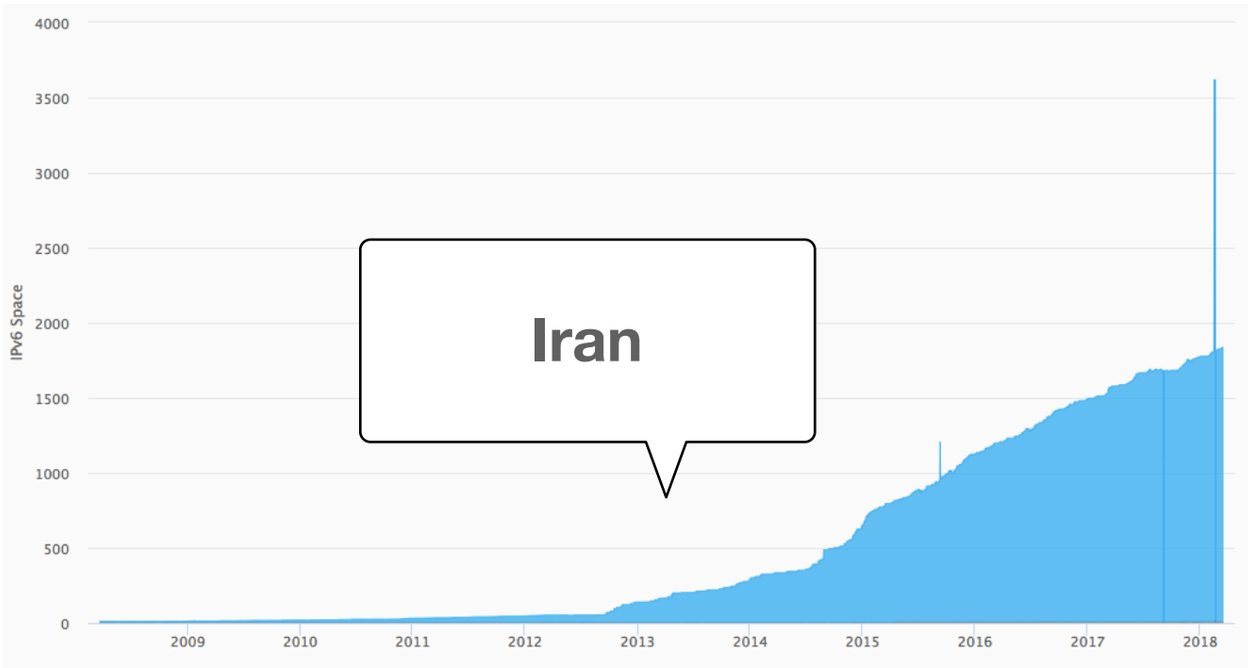

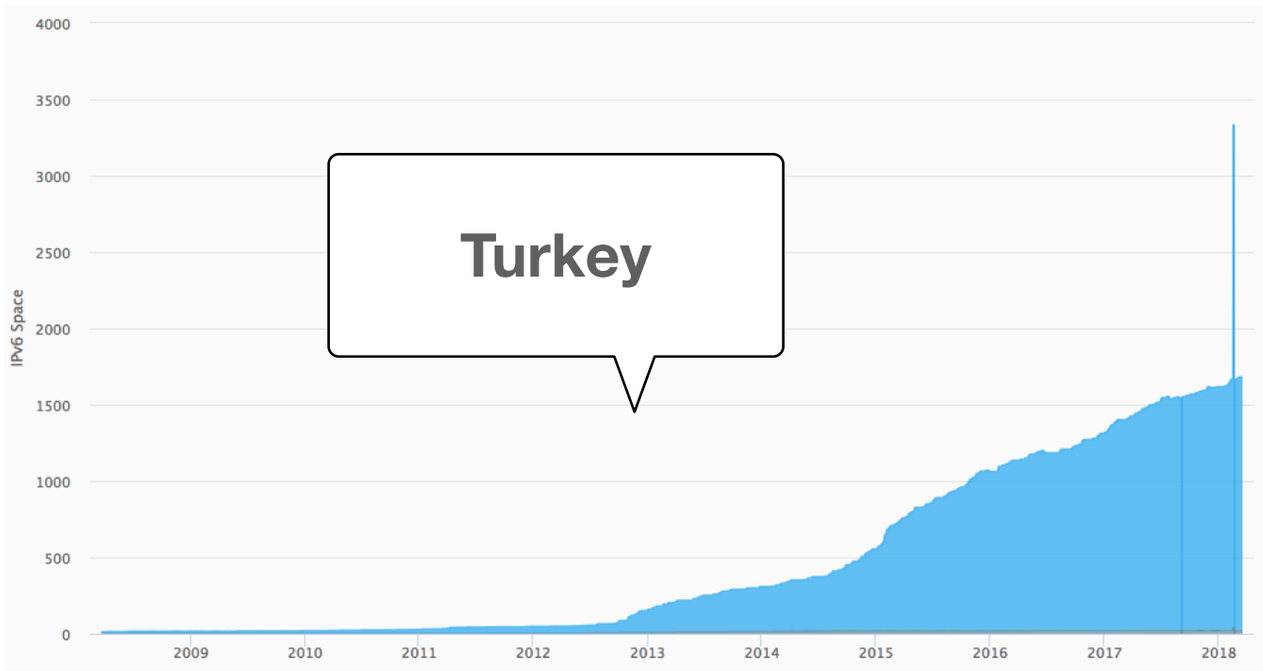

Source: https://stat.ripe.net

IPv6 Capabilities

Top players

CC	Country	IPv6 Capable	IPv6 Preferred	Samples
BE	Belgium, Western Europe, Europe	59.31%	56.29%	2,918,725
IN	India, Southern Asia, Asia	58.28%	57.12%	103,595,634
US	United States of America, Northern America, Americas	43.84%	41.80%	177,221,336
UY	Uruguay, South America, Americas	43.56%	42.99%	2,282,643
DE	Germany, Western Europe, Europe	41.32%	39.95%	8,674,915

http://stats.labs.apnic.net/ipv6

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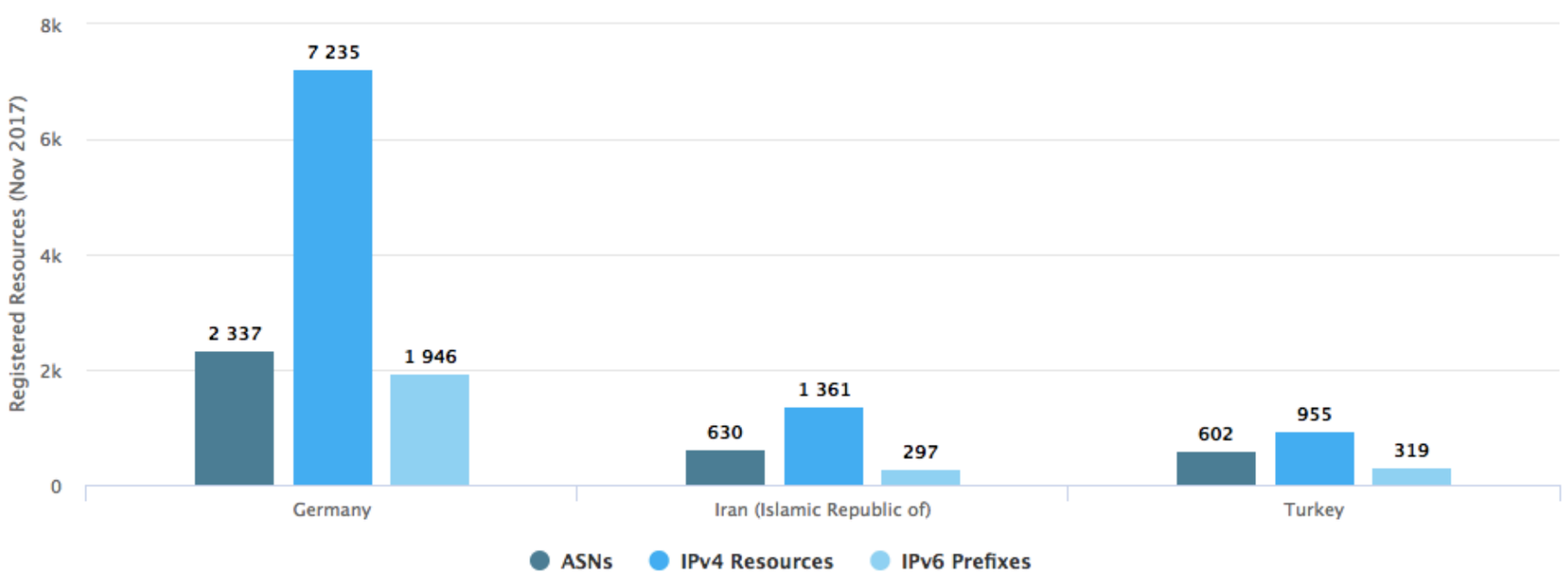
...and Iran

IR	Iran (Islamic Republic of), Southern Asia, Asia	2.20%	2.05%	1,054,170

http://stats.labs.apnic.net/ipv6

IPv6 in Iran

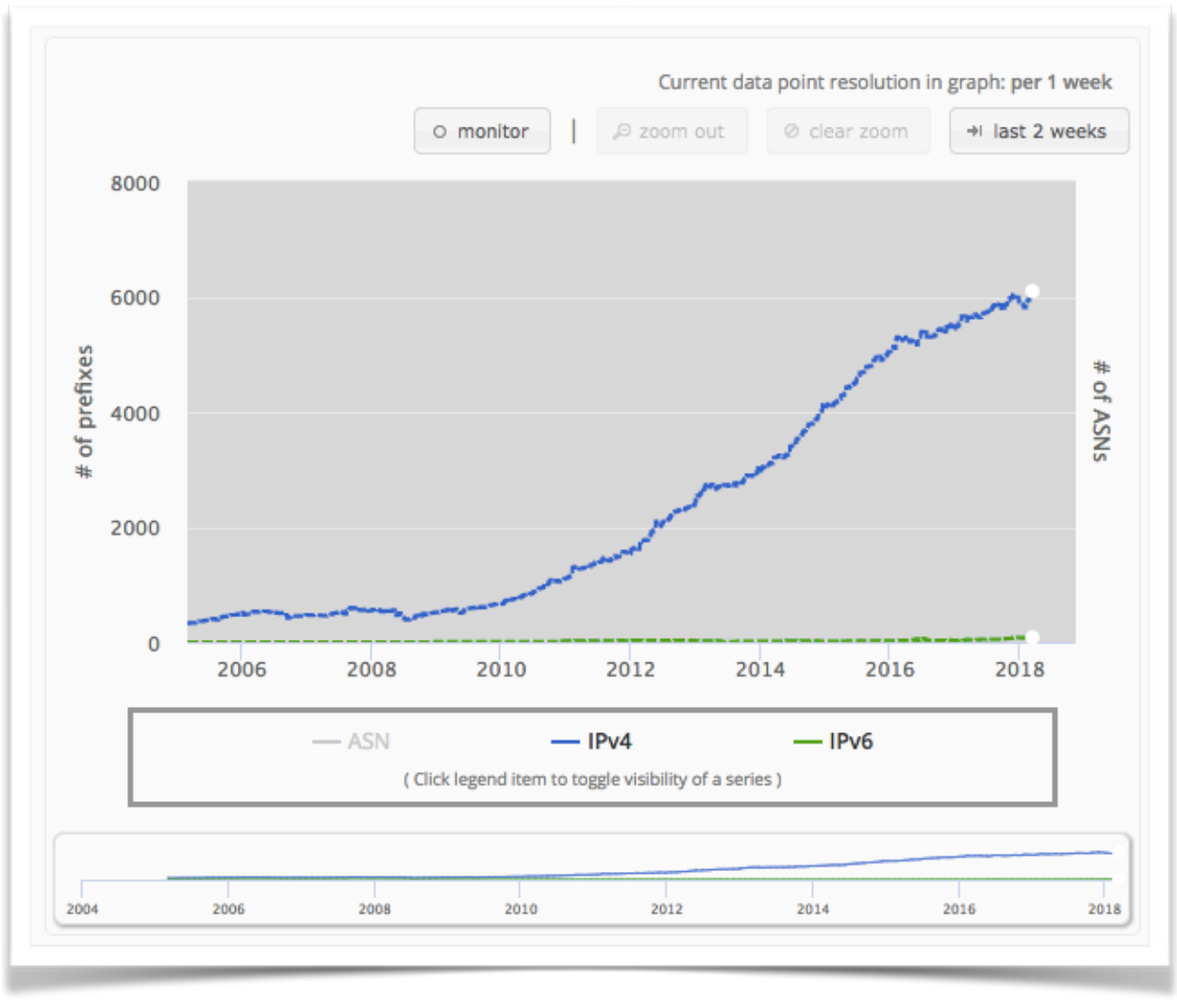
- Conclusion:
  - Iran has the lowest number of registered IPv6 resources
  - IPv6 offers technological, economical and innovational benefits



Source: https://stat.ripe.net

Internet Resources in Iran

- Look it up on stat.ripe.net
- Find all graphs live on stat.ripe.net/special/statistics/menog18

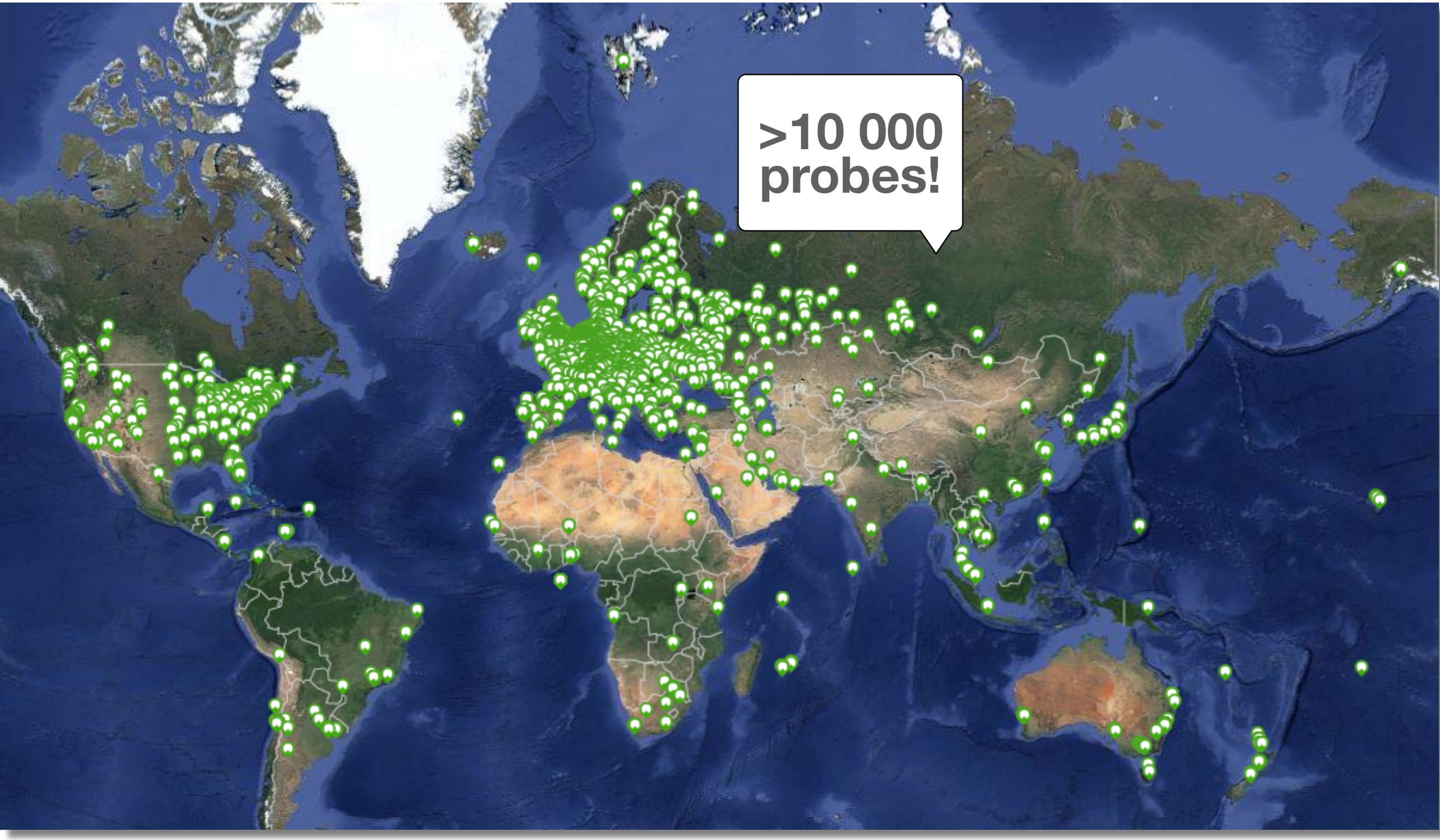


Source: https://stat.ripe.net

Active Measurements

RIPE Atlas, M-Lab, etc.

RIPE Atlas



RIPE Atlas Coverage in Iran

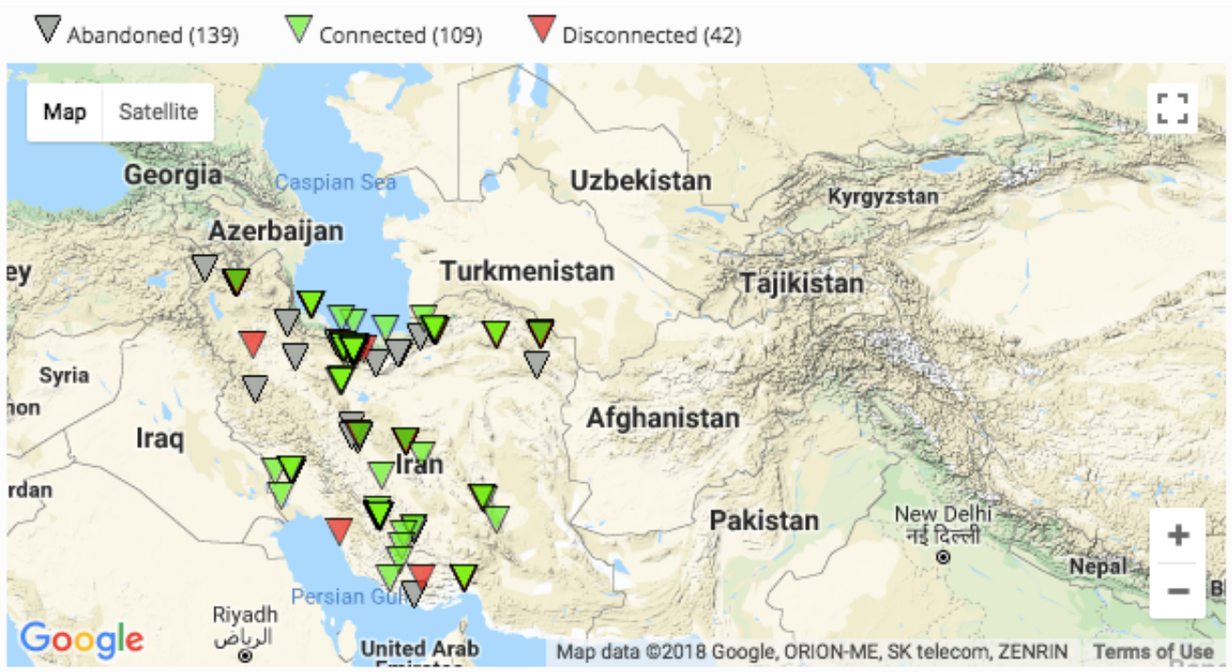
RIPE Atlas probes connected:

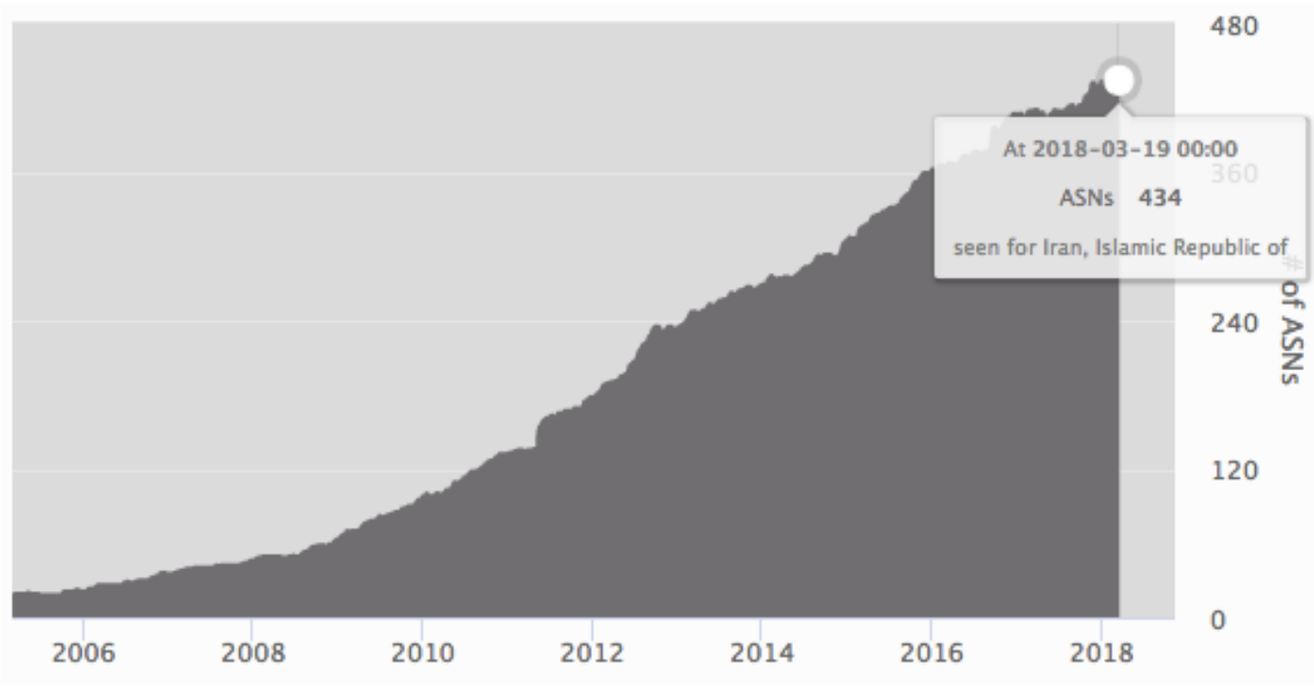
109

vs

Networks in Iran (RIS):

434





source: https://stat.ripe.net/IR#tabId=activity

source: https://stat.ripe.net/IR#tabId=routing

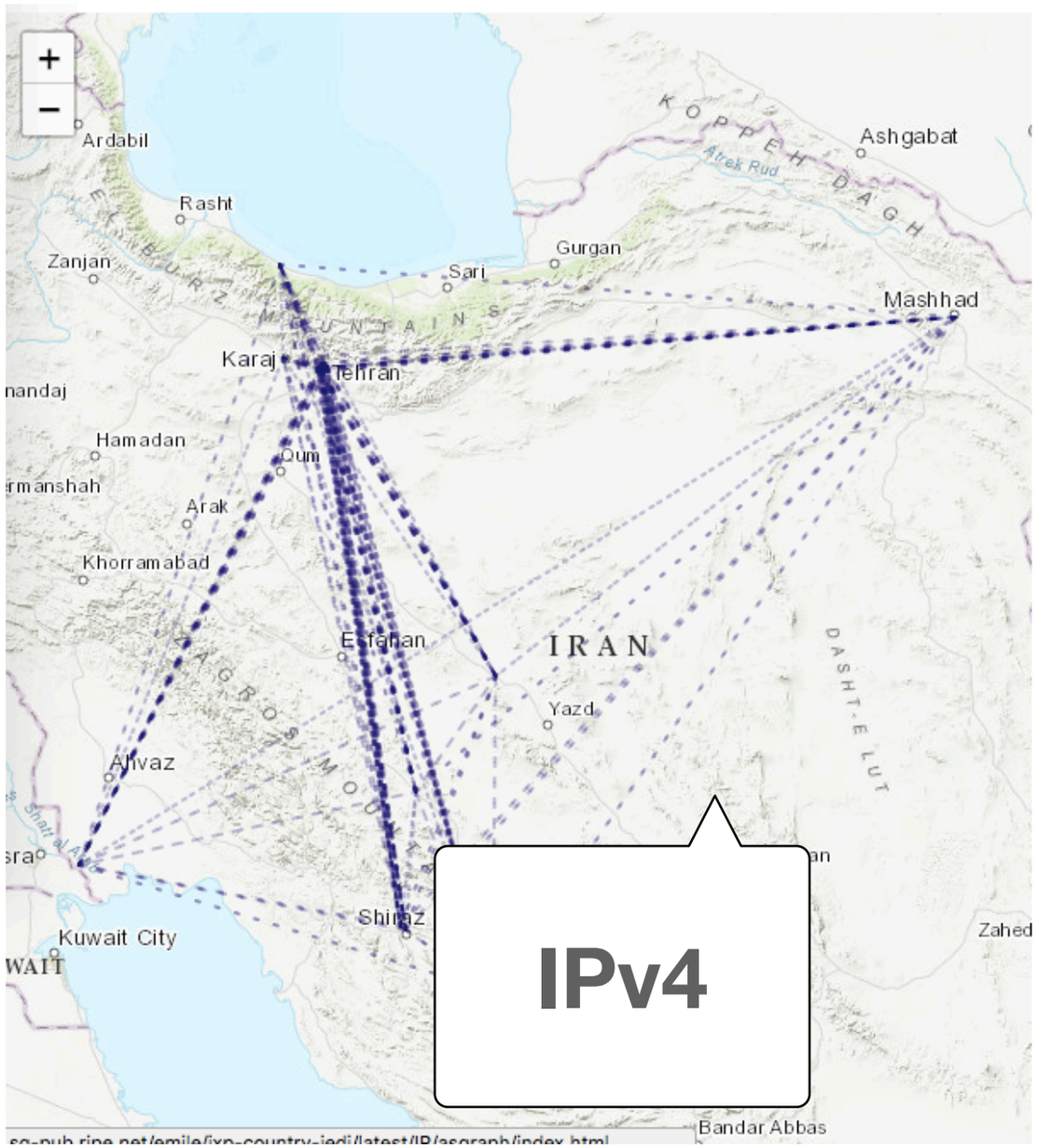
IXP-Country-Jedi

- What is IXP Country Jedi?
  - RIPE Atlas traceroute measurements
  - Geolocating observed hops
  - **Indicator** whether local data stays local

IXP-Country-Jedi

- Iran

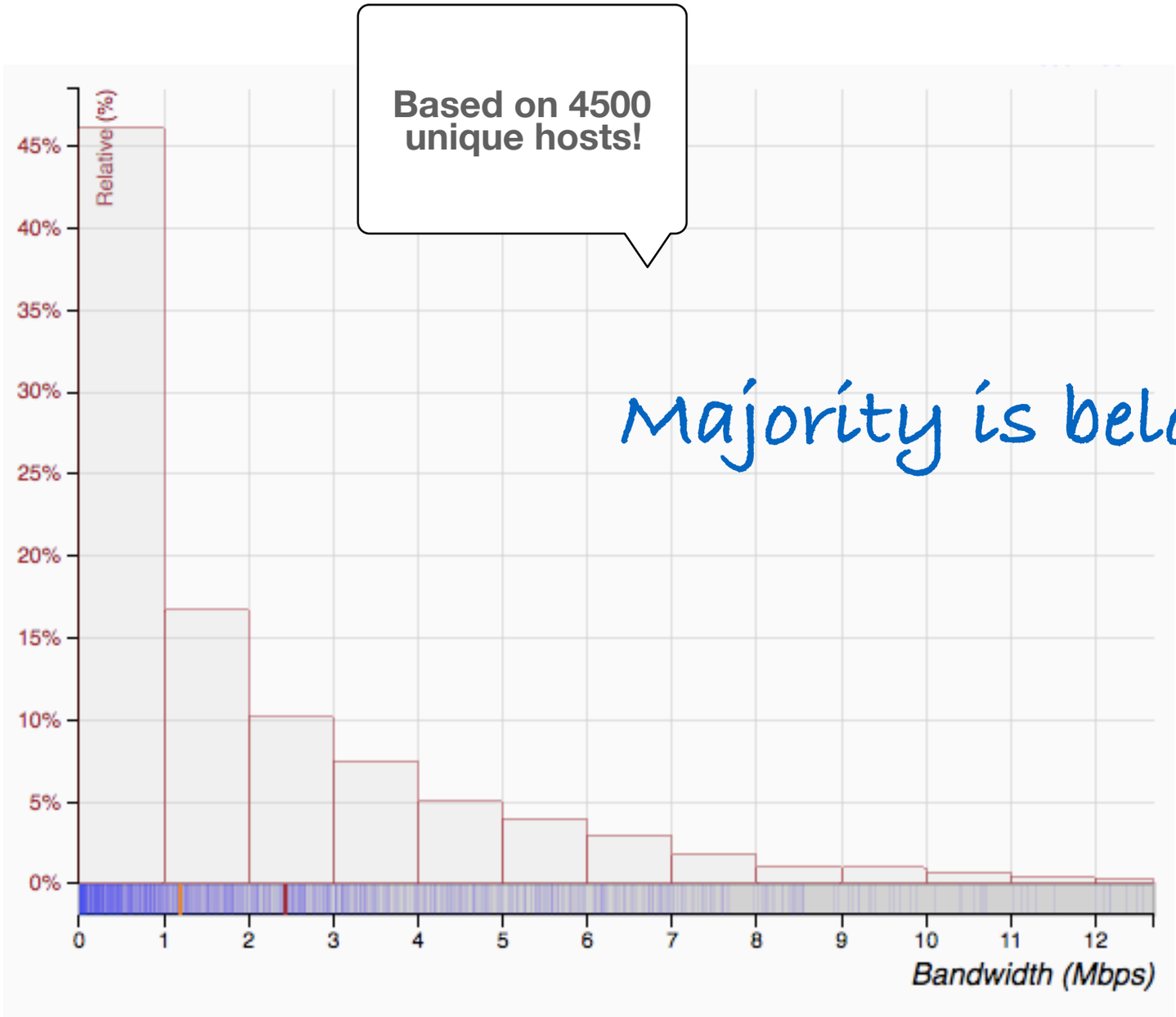
Must be read with extreme caution!



http://sg-pub.ripe.net/emile/ixp-country-jedi/latest/IR/geopath/

Bandwidth Capacity in Iran

- Observed from M-Lab (Google)



source: https://stat.ripe.net/IR#tabId=activity

Questions

christian.teuschel@ripe.net