

5G Networks and IoT



5G Use in Puerto Rico

Advanced Manufacturing

Puerto Rico's well-developed biosciences and aerospace industries are advancing manufacturing into the 5G era to provide:

- ▮ Delivery of real-time data to companies, at scale
- ▮ Preventive and predictive maintenance to monitor equipment status within the facility
- ▮ Theft prevention tracking across the supply chain

Logistics

Logistics go hand-in-hand with 5G. The IoT devices that enable shipping infrastructure need continuous connectivity with minimal latency:

- ▮ Ability to track cargo by the second through its entire journey
- ▮ Allow smart facility management
- ▮ Adopt just-in-time sequence loops at airports and warehouses

Energy and Smart Cities

5G technology will open the door to companies to help address pressing economic challenges that enable:

- ▮ Smart metering capabilities in the utilities industry
- ▮ Smart building management
- ▮ Energy-efficient, GPS-free geolocation technology

The Fourth Industrial Revolution is already underway in Puerto Rico, primed to support business with state-of-the-art communications infrastructure that takes connectivity to the next level, including 5G and 0G networks, the Internet of Things (IoT), artificial intelligence, and automation.

Leading the charge in next-generation connectivity is the Puerto Rico 5G Zone. This public-private partnership brings together industry, academia, and government to provide a testbed for companies to invest in 5G products and services in a safe, secure environment. The Puerto Rico 5G Zone is part of a nationwide consortium of 5G Centers of Excellence that also includes labs in Indiana and Washington state, as well as at Texas A&M University and the University of Hawaii. Each lab specializes in a specific sector, with Puerto Rico focusing on life sciences, manufacturing, and logistics.

Puerto Rico's role in the consortium has been strengthened by recent investments in IoT network integration. Everynet BV recently launched a long-range, low-power wide-area network (LoRaWAN), giving the Island the only open network of its kind in the U.S. Sigfox, the world's leading IoT provider, expanded its 0G network to include Puerto Rico, thus bringing the Island into a LoRaWAN network that spans over 1.1 billion people and 70 countries.

Companies developing logistics products and services for use in the U.S. will find the Island to be an ideal location for optimizing international trade & travel routes, while safely testing technology before bringing to market.

pr5gzone.org
visit the site to learn more

Labs Across America



national
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consortium®

- ▮ Texas A&M - Public Safety, 5G Interoperability, 5G Core Security
- ▮ Indiana 5G Zone - Manufacturing & Agriculture
- ★ PNNL - Cyber Security & Renewable Energy (Consortium Headquarters)
- ▮ University of Hawaii - Maritime
- ▮ Puerto Rico 5G Zone - Pharmaceutical / Logistics



Map not to scale

Puerto Rico 5G Zone Leverages a Robust Tech Ecosystem

Puerto Rico is harnessing the power of technology to confront some of the most pressing challenges and grow. Driven by local talent, Puerto Rico's Tech sector spans digital financial services to AI- and blockchain-based software development to cyber & information security. This vast and quickly growing scene is supported by island-wide Information & Communications Technology (ICT) and software development infrastructure, including 5G rollouts by multiple companies and new 0G networks that connect devices in Puerto Rico to international IoT grids.

Embracing Industry 4.0

Puerto Rico Tech sector includes:

600+ entrepreneurial companies



22,000+ direct jobs

In Latin America, Puerto Rico...

offers the 2nd best economy for artificial intelligence



is home to the #1 payment processing provider (2017)



ranks 1st in intellectual property protection, and also in the Caribbean



ranks 1st in capacity for innovation and boasts the highest rate of companies' use of digital tools




26,500 STEM
graduates in 2019

60% of graduates are in STEM fields **>>> 6x** higher than the next ranking U.S. state

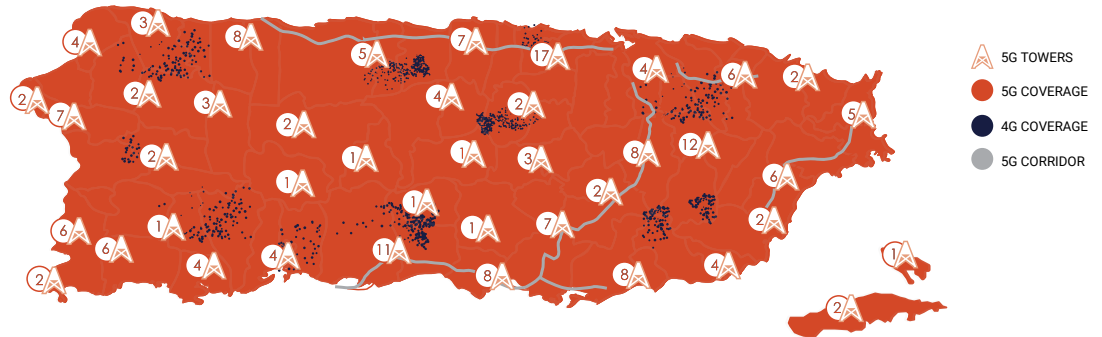
Among the Most Competitive Incentives in the United States

- 4% Corporate Tax Rate
- 100% exemption on capital gains, interest, and distribution of dividends
- SaaS exports are eligible
- Tax exemptions for export services
- Use and sale of utility tokens as software

Island-wide Coverage

Home to 31 internet providers and three 5G networks, Puerto Rico has a competitive and cost-effective ICT infrastructure

Over 90% of this infrastructure is privately owned



U.S. Jurisdiction

- Governed by U.S. federal law, including intellectual property protection
- Unique financial flexibility for IFEs and IBEs
- ICT innovation is supported by the FCC



Workforce & Talent Development

- Wages are 40% lower than the rest of the U.S.
- Bilingual in English and Spanish
- 80+ local universities
- Over 200K students annual enrollment
- 60% of graduates in STEM fields



Organizational Support

- Robust and growing innovative and entrepreneurial (I&E) ecosystem, including the PR Science, Technology, & Research Trust (PRSTRT), the IT Cluster, the public Blockchain Advisory Board, and regional accelerator of choice parallel18



High Quality of Life

- Diverse outdoors activities from pristine beaches to dense rain forest, mountains, caves, and canyons
- Rich cultural experiences from nighttime dancing to centuries old museums
- Over 50 certified historic landmarks



Real Estate

- Island-wide ICT infrastructure, including multiple 5G providers
- Lowest cost of Class A office space relative to comparable cities in the U.S.