

# FIFTH GENERATION (5G) WIRELESS TECHNOLOGY

## ACTIVITY GUIDE FOR AMERICAN SPACES

*This Activity Guide is designed for programming at American Spaces to create a greater awareness of issues that surround 5G technologies.*



### THE ACTIVITY

#### Audience

Select an audience with strong English language skills and interested in technology and foreign policy.

#### Behavior

The goal of the activity is to create a greater awareness of how 5G works and to consider its security implications.

#### Content

For this activity guide you will use videos, discussion, articles, and debate. Consider having an American Officer lead the activity. Work closely with your Public Affairs Section for more in-depth programming, such as inviting a U.S. speaker on the subject.

### WHAT IS 5G?

[Fifth-generation wireless technology](#), or 5G, is the next generation of mobile broadband communications technology. Not only does this technology significantly speed up mobile connections, but it also fundamentally changes and greatly increases the ways in which society interacts with technology. 5G deployments have vast implications ranging from Artificial Intelligence (AI), to manufacturing, to public services such as electricity and transportation.

The global economic potential for 5G is great. In the United States alone, 5G may add up to three million new jobs and create \$500 billion in economic growth. Experts believe that most countries will take advantage of the tremendous economic potential of 5G. This monumental shift creates a strategic imperative for countries to ensure their networks are secure.

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UNITED STATES DEPARTMENT of STATE  
Bureau of Educational and Cultural Affairs

## RESOURCES

### Articles

#### ShareAmerica

- Core vs Edge 5G -  
<http://bit.ly/ShAm5GCE>
- Why is America concerned about 5G?  
<http://bit.ly/ShAmAm5G>
- Who can you trust?
- 5G Security Concerns  
<http://bit.ly/ShAm5GIPR>
- Safe 5G Future  
<http://bit.ly/ShAm5GFtr>
- Beijing could use 5G to suppress its citizens  
<http://bit.ly/ShAm5GHRChn>

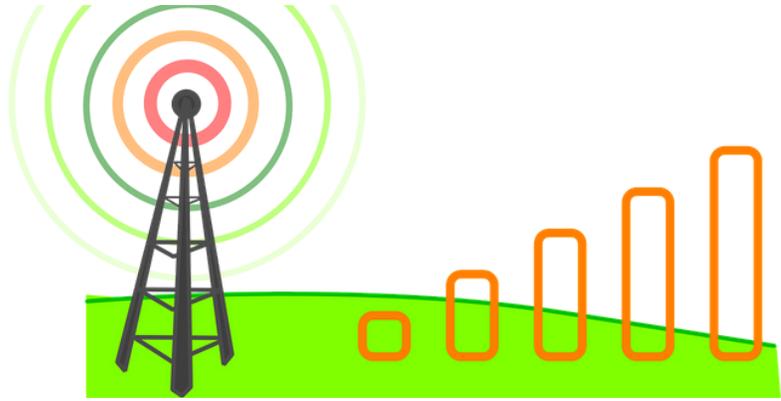
#### Establishing 5G

##### Infrastructure: What are 5G Small Cells?

<http://bit.ly/5GSmlClS>

#### Videos

- Secretary of State Pompeo on Huawei  
<http://bit.ly/SecPom5G>
- UN Agency on 5G  
<http://bit.ly/UNITU5G>
- Institute of Electrical and Electronics Engineers on 5G  
<http://bit.ly/IEEE5GEx>
- Voice of America videos on 5G -
  - <http://bit.ly/VoA5GChn>
  - <http://bit.ly/VoA5GExpl>
  - <http://bit.ly/VoA5Gcmng>



## Lesson Plan (45 -75 min)

1. Ask the group what they know about 5G? (5 min)
2. Watch this video on how 5G works (6 min) -  
<http://bit.ly/IEEE5GEx>
3. Break the participants into smaller groups, pass out the attached 5G handout, and have the groups discuss the benefits of 5G technology. (10 min)
4. Have the group brainstorm potential risks that 5G technology might present? (5 min)
5. Pass out the ShareAmerica article on 5G Core vs. Edge (<http://bit.ly/ShAm5GCE>) for participants to read. (10 min)
6. Have the groups discuss why 5G presents more security risks than 4G? (5 min)
7. Optional Debate: (30 min) - Write the below resolution on the board:

*Companies controlled by foreign governments should be excluded from building 5G networks in your country.*

- Assign the groups for and against the resolution and give them 5 minutes to brainstorm their arguments.
- Give each side 3 minutes to argue their side.
- Give the groups 2 minutes to form a rebuttal statement. Repeat as needed.
- See <http://bit.ly/ASDbGd> for more information on how to run a debate.

## VOCABULARY

**Artificial intelligence (AI)** - the ability of a computer or computer-controlled robot to perform tasks commonly associated with intelligent beings, e.g. a self-driving car.

**Bandwidth** - the capacity for data transfer of an electronic communications system. Example: Graphics consume more bandwidth than text does.

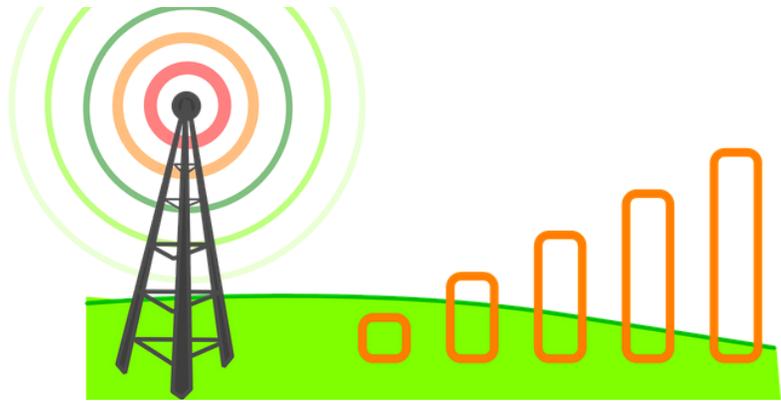
**Huawei** - is a Chinese multinational technology company. It provides telecommunications equipment and sells consumer electronics and smartphones. The company has expanded its business to include building telecommunications networks.

**Intellectual Property Theft** - involves robbing people or companies of their ideas, inventions, and creative expressions—known as “intellectual property”—which can include everything from trade secrets and proprietary products and parts to movies, music, and software.

**Internet of Things (IoT)** - A system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

**Latency** - the time delay that it takes a device to connect to the internet and receive data back.

**Transformative Technology** - is hardware - and software - based tools designed to enhance human psychological well-being, cognitive function and physical capabilities.



## 5G Handout

Fifth-generation wireless technology, or 5G, is the next generation of mobile, broadband-communications technology. Not only does this technology significantly speed up mobile connections, but it also fundamentally changes and greatly increases the ways in which society interacts with technology. 5G deployments have vast implications ranging from Artificial Intelligence (AI), to manufacturing, to public services, such as electricity and transportation.

The global economic potential for 5G is great. In the United States alone, 5G is predicted to add up to three million new jobs and create 500 billion dollars in economic growth. Experts believe that most countries will take advantage of the tremendous economic potential of 5G. This monumental shift creates a strategic imperative for countries to ensure networks are secure.

For most people, 5G technology will improve their quality of life. But for some, it could be used to constrain their freedoms. Companies headquartered in the People’s Republic of China (PRC) are already developing and using advanced-surveillance technologies, which are used to control populations at home and abroad. The PRC is a major exporter of surveillance technologies, often in the form of “smart city” or “safe city” systems. Huawei builds networks for repressive regimes like Iran and North Korea, and provides these oppressive regimes the tools to commit human rights abuses against its own citizens. This technology could allow other governments that do not respect human rights to suppress the freedom of expression. Countries around the world need to come together to make sure that this technology is not used to take away freedoms but rather to provide greater opportunities.

