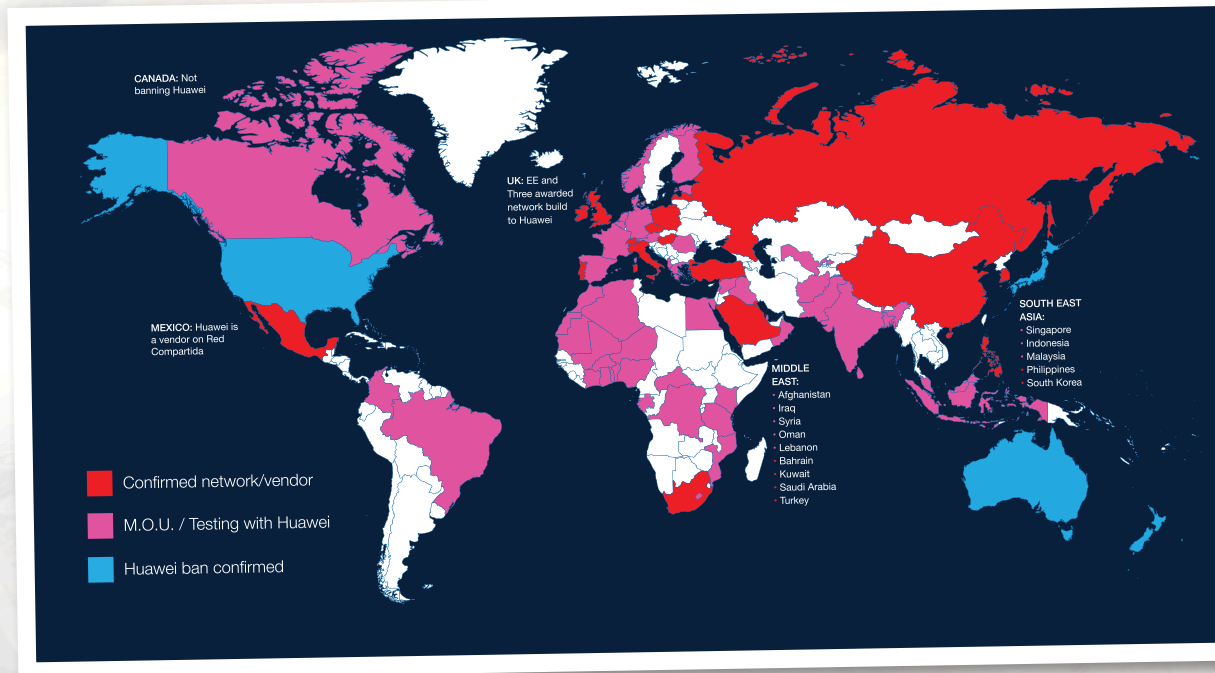




URGENT: AMERICA MUST WIN THE 5G WAR

We are in a **battle with China** for high tech and who will be the superpower for the 21st century. The key driver in the race is whoever controls the dominant platform for **5G wireless**, or Fifth-Generation telecommunications.

The future is dependent on 5G. Whoever establishes the dominant 5G platform infrastructure will determine not only how technology transfers information, but who has access to the system. Imagine the impact on Defense systems, utility grids, intellectual property, and the Internet of Things. **China has been working aggressively to build the infrastructure** and finance 5G for countries around the world. America is behind, but hopefully now waking up to this threat. This is a major national security and economic challenge that needs America's attention now!



5G is not an incremental change in communications, it is a giant leap. It is up to 100 times faster and a denser available network than 4G. It will revolutionize products and infrastructure for the next 30 years.

YOUR MISSION:

To understand the potential of 5G and the threat that exists if the primary infrastructure is made in China. Contact your representatives and ensure they are putting pressure on allies that they need to develop a better plan for 5G than one made in China. Look now for investment opportunities with the 5G economic revolution.



GettyImages

“Through the ‘made in China 2025’ plan, the Chinese communist party has set it’s sites on controlling 90 percent of the worlds most advanced industries, including robotics, bio technology, and artificial intelligence including 5G.”

-Mike Pence, Vice-President of the United States

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(OSINT)- Open Sourced Intelligence Briefing

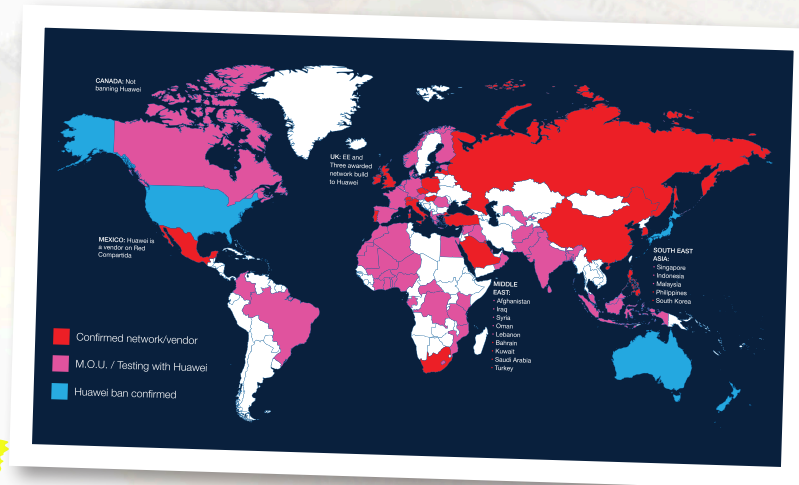
Open Sourced Intelligence Briefing - Kevin Freeman, CFA and Declan Ganley.

THE CHINA TECHONOLGY THREAT

- A. **5G-network infrastructure is expensive** and costs billions of dollars - but the advantages are significant, and China believes they are leading the race. They recognize this is their opportunity for global dominance in cyber and they have developed a Trojan horse.
- B. China is offering to build the infrastructure at **below market prices**. The contractors/carriers know they can work with Chinese contractors cheaply and that China will help finance their deals.
- C. **Italy has already accepted Chinese financing** signed a contract for 5G featuring Huawei's 5G equipment.
- D. China's Huawei has already **secured three contracts to build 5G** test networks for commercial use.*
- E. Germany is considering **Huawei 5G technology now**.*



- F. The U.S. is **losing the race**. 10 other countries are starting to use Huawei gear including Portugal, Italy, Mexico, Philippines and Saudi Arabia*
- G. The Chinese have been **installing backdoors** in mother boards for a long time through their technology.*
- H. Chinese telecoms, including Huawei, may operate under the **Chinese military-** intelligence complex.
- I. China has convinced **68 countries to let it lead on** building 5G networks. They are getting critical mass and even the US alone can not offset this, unless we do something now.
- J. Our military would be at serious risk operating in other countries on China's network.



*Forbes The War for the world's 5g future 10/17/2018, America's 5G Rendezvous With Destiny 10/29/2018 Arthur Herman

The Dysfunction:

- A. Rather than one common platform, the U.S. currently allows carriers to operate their own individual networks and cell towers. This results in the **second-most-expensive bandwidth** capacity on the planet. American cell phone bills are too high—by a lot.
- B. In the United States, there is limited wireless competition. Carriers like **AT&T, Verizon, T Mobile**, and others control the pace of innovation and do not want to constantly reinvest in infrastructure. There is no open or wholesale market, like we have on electricity in the U.S.



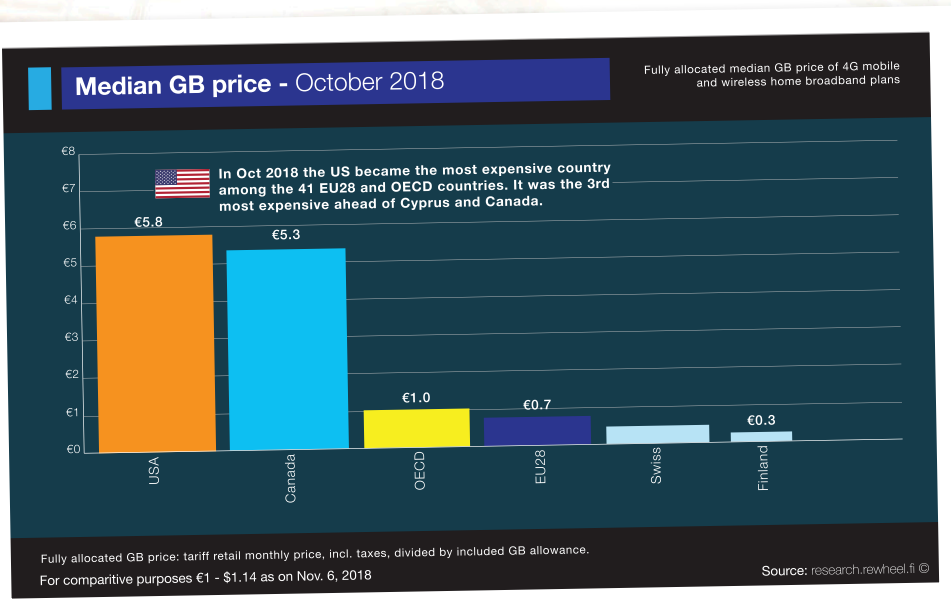
at&t



- C. The carrier oligopolies control pricing, so innovation, and free-market-pricing does not happen like it should.

“The average price of cellular service is almost five times higher than the average price in Germany or France.”

-Declan Ganley, Rivada Networks



Why You Should Care

1. **This is a major U.S. National Security and Economic Threat.** There is still a short amount of time to stop this threat, but we must act immediately. Once you control the cyber domain, you do not need military weapons or equipment - you can do targeted attacks without troops.
2. **Solutions include a potential streamlined wholesale distribution of 5G** that would allow for new applications and lower costs based on demand times. This could include new development in smart cities, self-driving vehicles, telemedicine and the internet of things.
3. **5G is the next economic revolution, similar to the Internet and smartphones.**
4. Our **military cannot be put at risk** relying on Chinese infrastructure to operate. Imagine the intellectual property theft and economic loss with Communist China controlling communications.
5. Your cellphone rates under the current inefficient system are the highest in the world. The innovation of 5G could add **three-quarters of one percent GDP to the economy every year.** That would be a huge plus in addressing our national debt problem.



Potential 5G Technology Investment Opportunities:

(Declan Ganley Chairman and CEO of Rivada Networks perspective if Open Access Wireless is launched)

Ask your financial advisor about ways to leverage the next economic boom in 5G.

- » Potential Investment opportunities include: **5G devices, suppliers, copper;** companies that follow price discovery on bandwidth opportunities could win big if Open Access Wireless is launched.
- » Short-term current carriers may feel some financial pressure, but they could be worth **2.5 times more** what they are today in a 5G world.
- » Apple and other **consumer-technology brands** have been constrained by carriers. There may be opportunities in these consumer brand/devices as they decouple from carriers offering new 5G services.



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Economic Patriot Action Steps

1. Think of the Eisenhower Interstate Highway system for Cyberspace. Advocate for a privately-funded, nationwide 5G network that covers rural America. It should be carrier-neutral, wholesale, secure, with a major focus on national security.
2. The U.S. must end the current impasse on establishing 5G standards and get bi-partisan support to break Chinese global strategy in this area.
3. We must mobilize U.S. telecoms to establish a new plan that allows 5G to be affordable without Chinese subsidizing price breaks. The dominant 5G platform should NOT be operated by controlling communist countries.
4. Serious consideration should be given to an Open Access Wireless, a carrier independent wholesale market to maximize wireless bandwidth.
5. Look for and be ready for ways to invest in the next economic boom - 5G!

The 5G marketplace
is a battlespace!

*Thank you for accepting this mission.
Together, we will make a difference!*

SHAREABLE THOUGHT: Remember Betamax verses
VHS technology. The U.S. is currently on track to be Beta
when it comes to 5G. We must do better now!

The EWR Collection Deck From Kevin Freeman & Declan Ganley

Background on Declan Ganley

Can This Irish Entrepreneur 'Netflix' The Wireless Industry?

LINK: <https://www.forbes.com/sites/andrewgoldsmith/2018/09/14/he-took-on-the-eu-can-this-irish-entrepreneur-netflix-the-wireless-industry/#2f2f226338f5>

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NASDAQ: Here's How To Invest In The 5G Data Revolution

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CNET: 5G is finally starting to feel real

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SEEKING ALPHA: A Look At The 5G Opportunity

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WORLD ECONOMIC FORUM: How 5G could speed up global growth

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4G Data Cost Sources - <http://research.rewheel.fi/prices/country/>

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LINK: <http://www.cramton.umd.edu/papers2015-2019/cramton-doyle-open-access-wireless-market.pdf>

RWR Advisory Group: A Transactional Risk Profile of Huawei

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U.S. mobile broadband is among the most expensive in the world, new report finds

LINK: <https://www.fiercewireless.com/wireless/u-s-mobile-broadband-among-most-expensive-world-new-report-finds>

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Forbes: The Coming U.S.-China Showdown On The Future Of Wireless

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Forbes: America's 5G Rendezvous With Destiny

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Forbes: Can This Irish Entrepreneur 'Netflix' The Wireless Industry?

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A Divided America Finds Common Ground on Defense Technology

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Panels and Interviews

Hudson Institute Panel Discussion: Promoting American Leadership in 5G Technology

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The Coming 5G Revolution

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A major factor behind the US-China trade war is winning at a \$12 trillion technology — 5G

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Rivada Networks CEO: Wireless networks can attract private capital

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Sharing spectrum: A national 5G wireless network is not such a stupid idea

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OPINION: China's Imminent Takeover Of High-Speed Cellular Communication

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Huawei Is the Doorway to China's Police State

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Germany Is Soft on Chinese Spying

LINK: <https://foreignpolicy.com/2018/12/09/germany-is-soft-on-chinese-spying/>

Japan's top three telcos to exclude Huawei, ZTE network equipment: Kyodo

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Huawei soon banned in France and Belgium?

LINK: <https://www.phonandroid.com/huawei-bientot-interdit-en-france-et-en-belgique.html>

Why does 5G have everyone worried about Huawei?

LINK: <https://www.economist.com/business/2018/12/07/why-does-5g-have-everyone-worried-about-huawei>

EU technology commissioner: Europe should be worried about Huawei

LINK: <https://venturebeat.com/2018/12/07/eu-technology-commissioner-europe-should-be-worried-about-huawei/>

On Huawei and 5G, Canada must unapologetically pursue our national interest

LINK: <https://www.theglobeandmail.com/opinion/article-on-huawei-and-5g-canada-must-unapologetically-pursue-our-national/>

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Cyber threats, spying bigger threat to Canada than terrorism: spy chief

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Why China's Huawei should not be allowed in UK 5G telecoms

LINK: <https://www.ft.com/content/a2eceede-f8bf-11e8-8b7c-6fa24bd5409c>

U.K.'s Intelligence Chief: Britain Faces Tough Decision on Huawei's 5G Technology

LINK: <https://www.wsj.com/articles/u-k-s-intelligence-chief-says-britain-faces-tough-decision-on-huaweis-5g-technology-1543844065?redirect=amp#click=https://t.co/EXAWvakWko>

Chinese telecoms at the heart of France's concerns

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Canada should oust Chinese telecom Huawei, say security experts

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China has outspent the US by \$24 billion in 5G technology since 2015, study shows

LINK: <https://www.cnbc.com/2018/08/07/china-outspent-us-by-24-billion-in-5g-technology-since-2015.html>

Chinese threat to cybersecurity: Why India needs a comprehensive & concrete action plan for national security and economic health

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Use of 5G as a surveillance instrument - A Supercervellone by Huawei will make Cagliari a smart city

LINK: <https://www.tomshw.it/hardware/un-supercervellone-di-huawei-rendera-cagliari-una-citta-smart/>

Countering China's cellphone espionage offensive

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U.S. Allies Raise New Security Worries About China's Huawei

LINK: <https://www.wsj.com/articles/water-electricity-would-be-at-risk-in-attacks-on-5g-networks-australian-intelligence-chief-says-1544182836>

China's surveillance system coming to the Philippines?

LINK: <https://www.rappler.com/newsbreak/inside-track/218026-huawei-china-surveillance-coming-to-philippines>

After a Hiatus, China Accelerates Cyberspying Efforts to Obtain U.S. Technology

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Connected cars of elected officials: the state is wary of Huawei

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China Violated Obama-Era Cybertheft Pact, U.S. Official Says

LINK: <https://www.wsj.com/articles/china-violated-obama-era-cybertheft-pact-u-s-official-says-1541716952?redirect=amp#click=https://t.co/L78GmW6vFX>

Tampered Chinese Ethernet port used to hack 'major US telecom,' says Bloomberg report

LINK: <https://www.theverge.com/2018/10/9/17955848/supermicro-telecom-server-hack-apple-amazon>

Bloomberg: New Evidence of Hacked Supermicro Hardware Found in U.S. Telecom

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China's military scientists target Canadian universities

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Asia-Pacific countries fight back after wave of cyber attacks

LINK: <https://www.ft.com/content/e846aeac-914f-11e8-b639-7680cedcc421>

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Chinese Testing Deployment

Status	Country	Date	Details	Link
T	Afghanistan	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
T	Algeria	Nov, 2018	Mobilis successfully tests 5G with Huawei technical support	https://www.agencecofin.com/operateur/1511-61834-algerie-mobilis-teste-avec-succes-la-5g-avec-l-appui-technique-de-huawei
T	Austria	Feb, 2018	T-Mobile Austria launches pre-5G in Innsbruck	https://mobileurope.co.uk/press-wire/t-mobile-austria-launches-pre-5g-in-innsbruck
T	Bahrain	April, 2018 August, 2018	Carrier VIVA signs infrastructure upgrade agreement with Huawei in prep for 5G Huawei testing 5G antennas	https://www.viva.com.bh/content/me_upgr http://www.technicalreviewmiddleeast.com/it/communication/huawei-to-accelerate-5g-ecosystem-in-bahrain
T	Belgium	June, 2017 April, 2018	Telenet and ZTE ink strategic partnership deal related to 5G Carrier Proximus and Huawei successfully trial 5G outdoors	https://www.telegeography.com/products/commsupdate/articles/2017/06/06/telenet-and-zte-ink-strategic-partnership-deal-related-to-5g-and-iot/index.html https://www.proximus.com/en/news/proximus-and-huawei-team-first-successful-5g-outdoor-trial-belgium-speeds-294-gbps-reached-end
T	Benin	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
T	Brazil	July, 2018	Vivo, Huawei stage 3.5GHz 5G trial	https://www.telegeography.com/products/commsupdate/articles/2018/07/13/vivo-huawei-stage-3-5ghz-5g-trial-in-rio-de-janeiro/
T	Burkina Faso	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
T	Canada	2017/2018	Bell Canada sign MoU with Huawei to trial 5G equipment	https://www.scmp.com/tech/enterprises/article/2134498/chinas-huawei-set-lead-global-roll-out-5g-mobile-networks
D	Channel Islands	Nov, 2018	ZTE to build 5G network	https://www.telecomlead.com/telecom-equipment/zte-signs-5g-network-deal-with-its-global-87600
T	Colombia	2017	Carrier TigoOne tests 5G with Huawei	https://www.millicom.com/media-room/features/5g-in-colombia/
T	Côte d'Ivoire	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
T	Czech Republic	2016 July, 2018	Vodafone Group MoU with Huawei Vodafone begins 5G testing with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands https://www.telegeography.com/products/commsupdate/articles/2018/07/11/vodafone-czech-demos-5g-in-karlovy-vary/
T	Denmark	May, 2018	Carrier TDC tests 5G with Huawei	https://www.telegeography.com/products/commsupdate/articles/2018/05/03/tdc-achieves-1-9gbps-speeds-in-5g-trial/
T	D.R. of Congo (DRC)	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
T	Egypt	March, 2014 2016	Etisalat signs agreement with Huawei to cooperate on 5G Vodafone Group MoU with Huawei	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/ https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
T	Estonia	March, 2018	Carrier Elisa tests 5G tech with Huawei	https://www.telecompaper.com/news/elisa-tests-5g-technology-with-huawei-in-estonia--1236285
T	Finland	Feb, 2018	Carrier Elisa testing 5G with Huawei	https://www.telecompaper.com/news/elisa-huawei-test-5g-in-moving-car-in-helsinki--1232374

source: Rivada Networks



Chinese Testing Deployment

T	France	Feb, 2017	Orange signs MoU with Huawei to test 5G equipment	https://www.huawei.com/en/press-events/news/2017/2/ORANGE-HUAWEI-PARTNERSHIP-5G-CLOUDIFICATION
		Feb, 2018	Huawei and Bouygues Telecom Sign 5G Joint Innovation Agreement	https://www.huawei.com/en/press-events/news/2018/2/Huawei-Bouygues-Telecom-5G-Agreement
		Dec, 2018	SRF and Huawei test 5G equipment	https://www.la Tribune.fr/technos-medias/5g-sfr-et-huawei-testent-des-equipements-779402.html
T	Gabon	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
T	Germany	Oct, 2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
		May, 2018	Deutsche Telekom testing with Huawei 5G equipment	https://www.telekom.com/en/media/media-information/archive/5g-rollout-in-germany-523636
T	Ghana	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
T	Greece	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
D	Hungary	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
		July, 2018	Telekom and Huawei test 5G	https://www.telekom.hu/about_us/press_room/press_releases/2018/july_02
D	Hungary	Nov, 2018	Hungarian Gov signs cooperation agreement to eventually build 5G home broadband	https://emerging-europe.com/business/huawei-seals-hungarian-5g-partnership/
		2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
T	India	Oct, 2018	Huawei Allowed to test 5G after Gov backed down	https://telecom.economicstimes.indiatimes.com/news/huawei-in-talks-with-indian-telcos-for-5g-field-trials-jay-chen-india-ceo/66375302
T	Indonesia	May, 2017	Telkomsel, Huawei demo 5G in Jakarta	https://www.telegeography.com/products/commsupdate/articles/2017/05/30/telkomsel-huawei-demo-5g-in-jakarta/
D	Iraq	March, 2018	Huawei signs deal with Zain carrier to modernize network	https://www.iq.zain.com/en/web/iraq/media-coverage/-/asset_publisher/Fhj9g3BjGKH/content/-zain-partners-with-huawei-to-modernize-its-network-in-kurdistan-to-provide-the-latest-communication-technology-to-more-than-one-million-subscribers-i
D	Ireland	Nov, 2018	Eir announces Huawei to provide network upgrade equipment	https://www.rte.ie/news/business/2018/11/12/1010284-eir-network-investment/
D	Italy	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
		Sept, 2018	Huawei activate commercial 5G station in Italy	https://www.rcwireless.com/20180928/5g/tim-fastweb-huawei-activate-commercial-5g-station-italy
B	Japan	Aug, 2018	Huawei and NTT DOCOMO carry out large scale 5G field	https://www.telegeography.com/products/commsupdate/articles/2018/08/17/huawei-and-ntt-docomo-carry-out-large-scale-5g-field-trial-in-japan/
D	Japan	Dec, 2018	Huawei and ZTE banned	https://www.lightreading.com/mobile/5g/japan-next-in-line-to-block-huawei-zte/d/d-id/748182?
		2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
T	Kenya	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
D	Kuwait	Sept, 2018	Huawei testing 5G antennas for all three carriers	https://www.kuna.net.kw/ArticleDetails.aspx?id=2754722&language=en
D	Latvia	Nov, 2018	Bite Latvia signs cooperation memorandum with Huawei to build 5G base stations	https://www.telecompaper.com/news/bite-latvia-huawei-to-cooperate-on-5g-development--1269101
T	Lebanon	March, 2016	Touch Lebanon signs 5G agreements with Huawei	https://www.telegeography.com/products/commsupdate/articles/2016/03/29/touch-lebanon-signs-4-5g-contracts-5g-agreements-with-huawei-nokia/
T	Lesotho	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
T	Malaysia	2018	edotco and Huawei sign MoU, aim for 5G readiness in Malaysia	https://themalaysianreserve.com/2018/11/30/edotco-and-huawei-sign-mou-aim-for-5g-readiness-in-malaysia/
T	Mali	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
D	Malta	July, 2018	Malta Government and Huawei sign MoU for 5G infrastructure	https://www.chinadailyhk.com/articles/18/87/125/1531626018571.html
T	Mauritania	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/

source: Rivada Networks



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D	Mexico	March, 2017	Vendor – Huawei, Red Compartida	https://www.capacitymedia.com/articles/3687430/Huawei-Nokia-selected-as-Mexicos-Red-Compartida-network-partners
D	Monaco	Sept, 2018	Monaco Telecom and Huawei sign 5G network agreement	http://www.monacolife.net/government-welcomes-5g-agreement-between-monaco-telecom-and-huawei/
T	Morocco	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
T	Mozambique	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
T	Netherlands	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
		April, 2018	KPN carrier and Huawei conduct 5g trials	https://www.rcwireless.com/20180413/5g/kpn-urges-dutch-government-provide-3-5-spectrum-5g-trials-tag23
T	New Zealand	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
		Nov, 2018	Huawei and Spark showcase separated 5G network	https://www.zdnet.com/article/huawei-and-spark-showcase-separated-5g-network-in-new-zealand/
		Nov, 2018	Huawei banned from supplying 5G network equipment	https://www.wsj.com/amp/articles/new-zealand-bars-huawei-from-its-5g-network-over-security-fears-1543383461
T	Niger	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
T	Nigeria	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
T	Norway	March, 2017	Telenor and Huawei begin 5G demos	https://www.huawei.com/en/press-events/news/2017/3/Huawei-Telenor-First-5G-Demo-Norway
T	Oman	Sept, 2017	Huawei seek testing agreement with Oman regulator for 5G	https://www.albawaba.com/business/pr/high-speed-5g-mobile-internet-oman-soon-1023494?quicktabs_accordion=2
T	Pakistan	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
D	Philippines	June, 2018	Globe Telecom selects Huawei as 5G vendor	https://www.prnewswire.com/news-releases/globe-telecom-brings-5g-technology-to-the-philippines-300661639.html
D	Poland	Sept, 2018	Orange Poland and Huawei begin 5G testing	https://www.telegeography.com/products/commsupdate/articles/2018/09/13/orange-poland-begins-outdoor-5g-trials-expands-ftth-foot-print/
		Dec, 2018	T-Mobile Poland deploying Huawei	https://mobile.twitter.com/TMobilePolska/status/107031529779970048
		2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
T	Portugal	July, 2018	Altice and Huawei begin 5G testing	https://www.reuters.com/article/us-portugal-altice-5g/altice-huawei-tie-up-aims-to-make-portugal-a-european-leader-in-5g-idUSKBN-1JV1G9
		Nov, 2018	Altice and Huawei sign MoU	https://www.huawei.com/en/press-events/news/2018/12/altice-portugal-huawei-5g-partnership
T	Romania	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
		2017	Orange Romania using Huawei to test 5G	https://www.telecompaper.com/news/orange-romania-tests-5g-with-huawei--1225810
D	Russia	Sept, 2018	Huawei to construct 5G network in Russia	https://gbtimes.com/huawei-to-construct-5g-network-in-russia
D	Saudi Arabia	March, 2014	Etisalat (owner of Mobily) signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
		Oct, 2018	Mobily selects Huawei to build 5G network	https://www.rcwireless.com/20181017/5g/huawei-mobily-ink-5g-agreement-saudi-arabia
T	Singapore	June, 2018	Huawei conducts 5G trials with M1	https://www.zdnet.com/article/huawei-conducts-5g-trials-in-singapore-with-m1/
		2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
D	South Africa	May, 2018	Huawei 5G trial vendor	https://mybroadband.co.za/news/cellular/259253-mtn-and-huawei-launch-first-outdoor-5g-trial-in-south-africa.html
		Oct-18	Carrier Rain names Huawei vendor for 5G network	https://www.ecofinagency.com/telecom/2910-39164-south-africa-rain-to-launch-5g-network-on-november-12-2018
D	South Korea	Oct, 2018	Carrier LG U+ names Huawei as 5G network vendor	http://www.businesskorea.co.kr/news/articleView.html?tid=xno=26128

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T	Spain	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
		Oct, 2018	Vodafone Spain and Huawei begin construction of 5G testing nodes	https://www.rcrwireless.com/20180924/5g/vodafone-huawei-activate-first-5g-node-madrid
		Nov, 2018	Testing of 5G calls in Málaga	http://www.favoryto.com/2018/11/telefonica-y-huawei-realizan-la-primera.html?m=1
T	Sri Lanka	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
D	Switzerland	Dec, 2017	Carrier Sunrise and Huawei complete initial 5G testing in Zurich	https://www.rcrwireless.com/20171212/5g/huawei-sunrise-5g-switzerland-tag23
		Nov, 2018	Swiss Sunrise announce use of Huawei hardware in 5G Plan	https://www.lightreading.com/mobile/5g/swiss-sunrise-to-sunset-copper-broadband-in-huawei-led-5g-plan/d/d-id/747722?
T	Syria	Oct, 2018	Chinese government wants an economic and infrastructural role in post-war Syria – Huawei has pledged to rebuild nation's telecom infrastructure	http://www.atimes.com/article/china-stakes-out-a-role-for-itself-in-post-war-syria/
T	Tanzania	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
T	Togo	March, 2014	Etisalat signs agreement with Huawei to cooperate on 5G	http://telecoms.com/227732/etisalat-to-work-on-5g-with-huawei/
D	Turkey	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
		Oct, 2018	Vendor – Huawei	https://www.telegeography.com/products/commsupdate/articles/2017/10/24/vodafone-turkey-tests-3-5ghz-spectrum-on-the-path-to-5g/
D	United Kingdom	2016	Vodafone Group MoU with Huawei	https://www.fiercewireless.com/europe/vodafone-and-huawei-test-5g-low-and-high-spectrum-bands
		2017/2018	British Telecom sign MoU with Huawei to test 5G equipment	https://www.scmp.com/tech/enterprises/article/2134498/chinas-huawei-set-lead-global-roll-out-5g-mobile-networks
		Aug, 2018	Three UK signs deal with Huawei to build 5G network	https://www.lightreading.com/mobile/5g/nokia-samsung-miss-out-as-three-uk-gives-5g-job-to-huawei/d/d-id/745121
		Nov, 2018	Three and Huawei launch 5G home router testing in London	https://www.huawei.com/en/press-events/news/2018/11/5g-home-broadband-capability-london
		Dec, 2018	BT claims to have banned Huawei	https://www.ft.com/content/c639aaf4-f7c9-11e8-8b7c-6fa24bd5409c

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