

ReThink

企業 突破力

落實創新，再造企業新局！



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落實創新，再造企業新局！

Collaborative Innovation

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IBM Executive
Technology & IP Licensing





Topic



- Innovation Engines
- Collaboration Model
- Collaboration Examples - Taiwan
 - Semiconductor R&D
 - Exploratory R&D
- Research in Growth Market

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Innovation Engines @IBM

	Exploratory	
Business Analytics & Math. Sciences 	Industry Solutions 	Services 
Software 	Systems 	Technology 

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Research & Industry Segments



Agriculture Industry



Automotive Industry



Business Process & Services



C&P (O&G) Industry



Cloud



Digital Money



Disaster Response Assets



Education



Electronics Industry



Financial Industry



Gaming



Healthcare



IP Management



Manufacturing Industry



Media & Entertainment



Railway Industry



Renewable Energy



Retail



Security



Smarter Airport



Smart Building



Smarter Cities



Smarter Home



Smart Energy



Smarter Sports/Arena



Smart Water



Supply Chain Management



S/W Development & Testing



Travel & Transportation



Mining Industry



Insurance Industry



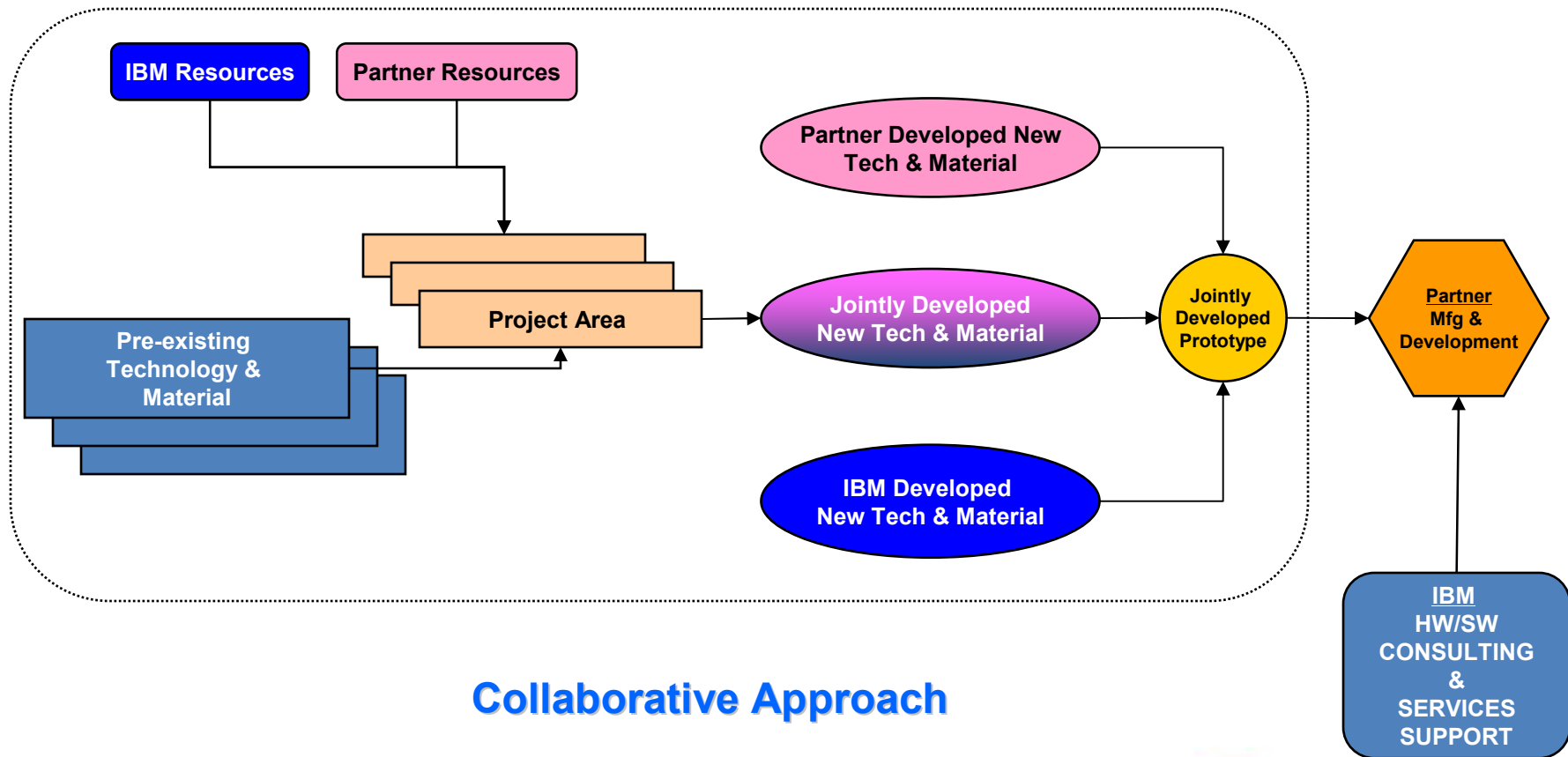
Telecommunications & Mobile

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Innovation Model @IBM



Collaborative Approach

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Semiconductor Technology R&D

Ecosystem @IRM

Government Partnerships





IBM UMC Alliance

UMC joins IBM chip alliance for 10nm process development

Companies to collaborate on advanced technology

Armonk New York and Hsinchu, Taiwan, June 13, 2013 – IBM (NYSE: IBM) and United Microelectronics Corporation (NYSE: UMC; TWSE: 2303) ("UMC"), a leading global semiconductor foundry, today announced that UMC will join the IBM Technology Development Alliances as a participant in the group's development of 10nm CMOS process technology.

"Established over a decade ago, the IBM alliance allows the partners to leverage our combined expertise and collaborative research and innovative technology development to address the demanding needs for advanced semiconductor applications," said Gary Patton, VP, IBM Semiconductor Research & Development. "UMC is a strong addition to the alliance."

Po Wen Yen, CEO at UMC, added, "IBM is a recognized leader in fundamental semiconductor technology. We are extremely pleased to work jointly with IBM on advanced fundamentals, and to contribute our many years of experience in developing highly competitive manufacturing technology. Our role as one of the world's top foundries requires us to introduce leading-edge processes in a timely manner to enable next generation customer chip designs. We look forward to collaborating closely with IBM, leveraging their deep technology expertise to shorten our 10nm and FinFET R&D cycles and create a win-win situation for UMC and our customers."

The agreements between UMC and IBM expand upon their 2012 agreements concerning prior nodes, including 14nm FinFET. With IBM's support and know-how from this collaboration, UMC will continue to improve its internally developed 14nm FinFET to offer industry competitive low-power technology enhancements for mobile computing and communication products. The parties plan to develop baseline 10nm process technology to meet the needs of UMC customers. UMC will send an engineering team to join the 10nm development work that will take place in Albany, New York, while UMC's 14nm FinFET and 10nm implementation will take place at UMC's Tainan, Taiwan R&D site.

Source: <http://www.umc.com/English/news/2013/20130613.asp>

The logo for "ReThink" features the word in a multi-colored, sans-serif font. The letters are: 'R' (red), 'e' (blue), 'T' (yellow), 'h' (green), 'i' (purple), and 'n' (orange).



IBM Macronix

Macronix extends phase-change memory alliance with IBM

Josephine Lien, Taipei; Jessie Shen, DIGITIMES [Thursday 28 January 2010]

Macronix International Company (MXIC) has signed an agreement with IBM to continue to co-develop phase-change memory (PCM) technology in order to sustain future growth, according to the Taiwan-based flash maker.

<http://www.digitimes.com/news/a20100128PD218.html>

Promising New Memory Chip Technology Demonstrated by IBM, Macronix & Qimonda Joint Research Team

New 'phase-change' material used in very small cell much faster than flash

↓ News release

↓ Contact(s) information

↓ Related XML feeds

SAN FRANCISCO - 11 Dec 2006: Scientists from IBM, Macronix and Qimonda today announced joint research results that give a major boost to a new type of computer memory with the potential to be the successor to flash memory chips, which are widely used in computers and consumer electronics like digital cameras and portable music players.

The advancement heralds future success for "phase-change" memory, which appears to be much faster and can be scaled to dimensions smaller than flash – enabling future generations of high-density "non-volatile" memory devices as well as more powerful electronics.

Non-volatile memories do not require electrical power to retain their information. By combining non-volatility with good performance and reliability, this phase-change technology may also enable a path toward a universal memory for mobile applications.

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IBM MediaTek

IBM and MediaTek to Bring Wireless High Definition TV and Movies to Consumers

2007-10-23



Companies Will Leverage the Made in IBM Labs Millimeter Wave Technology

To Build Ultra Fast Wireless Chipsets

Hsinchu, Taiwan and YORKTOWN HEIGHTS, NY – MediaTek Inc. (TWSE: 2454, "MediaTek") and IBM (NYSE: [IBM](#)) today launch a joint initiative to develop ultra fast chipsets that can wirelessly transmit a full-length high definition

movie to and from a home PC, hand-held device, retail kiosk or television set nearly as fast as a viewer can push their remote control.

http://www.mediatek.com/_tw/03_news/01-2_newsDetail.php?sn=6

IBM, MediaTek to debut 60-GHz chipset

EE Times

5/24/2010 07:00 PM EDT

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NO RATINGS
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PORTLAND, Ore. —IBM and MediaTek Inc. will debut Tuesday (May 25) their 60-GHz transceiver chipset at the IEEE Radio Frequency Integrated Circuit Symposium in Anaheim, Calif.

The partners have been cooperatively developing the chipset for IEEE's Wide Personal Area Network standard which will replace that snarl of cables connecting video, audio and control signals among multi-media equipment. The transmitter chip had been previously described by IBM and Mediatek, but this is the first time they have described the receiver chip. The matched chipset is expected to be commercially available by next year.

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IBM ITRI

IBM announces new Research collaboratory in Taiwan

Published on December 22, 2009 at 2:38 AM · [No Comments](#)

IBM (IBM) today announced a new Research collaboratory, located in Taipei, Taiwan. The collaboratory will focus on using technologies -- including cloud computing, analytics and mobile devices -- to advance wellness-centric healthcare that manages diseases more efficiently and effectively to keep people healthier.

The IBM collaboratory in Taiwan will be fully operational in 2010 and established jointly by the Ministry of Economic Affairs Taiwan and IBM. The Industrial Technology Research Institute (ITRI) and the Institute for Information Industry (III) will join the Ministry of Economic Affairs (MOEA) and IBM in the partnership. The collaboratory will work also with researchers from several leading institutions in Taiwan including National Taiwan University, National Tsing Hua University, National Chiao Tung University and Chang Gung University.

<http://www.news-medical.net/news/20091222/IBM-announces-new-Research-collaboratory-in-Taiwan.aspx>

IBM, ITRI Collaborate to Advance New Solid-State Memory

"Racetrack Memory" promises high performance and capacity, low cost and power use

SAN JOSE, Calif. - 17 Sep 2008: IBM (NYSE: IBM) announced today that it has entered into a joint development agreement with Taiwan's Industrial Technology Research Institute (ITRI) to further explore "Racetrack Memory," an entirely new approach to solid state memory. Racetrack Memory was conceived by IBM Fellow Dr. Stuart Parkin at IBM's Almaden Research Center in San Jose, CA.

<http://www-03.ibm.com/press/us/en/pressrelease/25141.wss>

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Research in Growth Market

The Growth Markets need Energy, Technology & Infrastructure



More than \$1T in committed **infrastructure spending** will be invested in Middle East economies over the next 5 years



Infrastructure build outs will **drive demand for global resources** – particularly power, food & raw materials.



IMF predicts that developing countries will account for **50% of the global economy** by 2014.



In the past 10 years **internet penetration** in LA & MEA has increased 10 times that of NA



the number of people **moving to urban cities** every year – is the equivalent of 10 NYCs



5 billion m² of road will be paved in China by 2025; equivalent to a 2 lane road 40 times around the globe



Indonesia will spend \$155B in infrastructure development in next five years on toll roads and railways.



Indian **household income** will triple by 2025

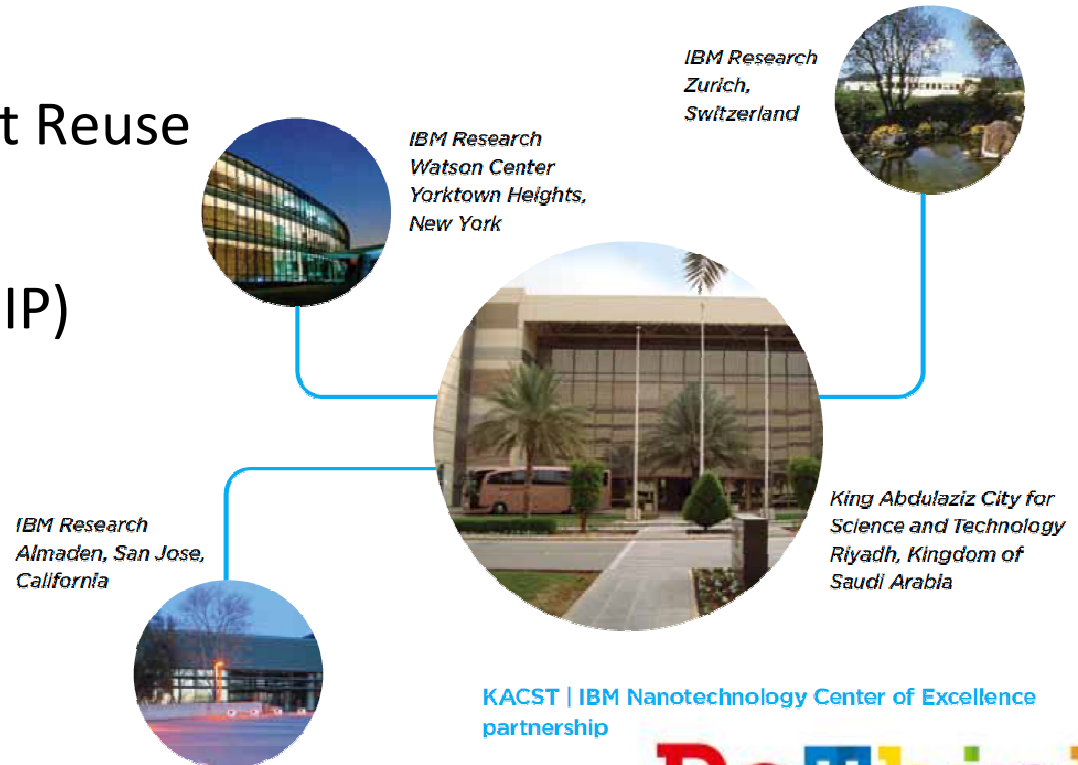
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Nanotechnology Center of Excellence

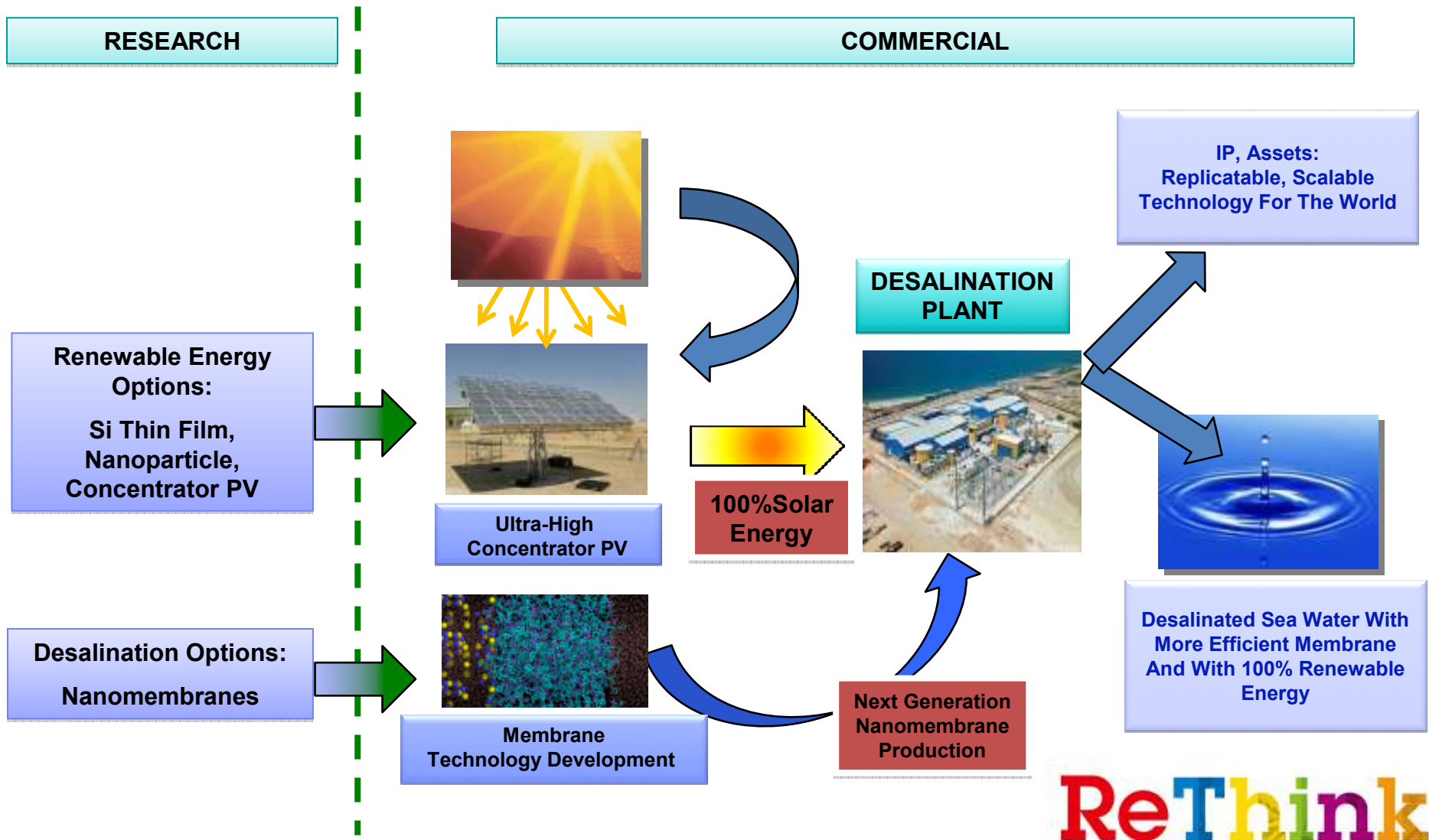
- Alternative Energy Sources
- Desalination / Water Treatment
- Green Catalysis
- Efficiency: Waste Heat Reuse
- Nanomedicine
- Intellectual Property (IP)



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KACST-IBM Joint Research

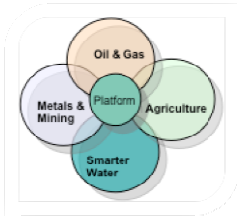


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Some areas of Research in Growth Markets

Natural Resources



80%+ NR in GM

- Computational Geo Sciences
- Advanced Condition-based Monitoring
- Smart Water
- Integrated Operations Centers

Mobile Payments



Breakout growth (e.g. with large unbanked pop.)

- Mobile Platform for Smarter Commerce
- Big Data / Analytics
- Integration of Telco + Banking + Retail

Advanced Mobility



\$1T Spend in China & India

- Fleet Optimization & Mgmt.
- Advanced Diagnostics
- Electric Vehicles
- Telematics

Internet of Things



Infrastructure for Smarter Planet Solutions

- Wireless Data Telemetry
- Distributed Data Management
- Smart Maintenance
- New Application Infrastructures

Healthcare in GM



Digital Hospitals

- Collaborative Care Solutions
- Mobile Services for Healthcare
- Deep QA for Healthcare
- Digital Hospitals & Cities

Resilient IT



Gov't's central role in using & promoting IT (e.g. Shared Services, Industry Clouds)

- Cyber Security, Supply Chain Disruptions are serious concerns
- Smart Cities Technologies & Solutions

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Collaborative Benefits @IBM

- Collaborate and partner with a world-class team
 - Access to R&D leaders, know-how and technology
 - Mitigate risks related to emerging technologies / markets / barriers-to-entry
- Launch or improve product offerings
 - Differentiate from competitors
 - Pursue new growth market opportunities
 - Accelerate time to market
- Tap into IBM's extensive business network
 - Participate in IBM's economies of scale
 - Go-to-market partner with worldwide sales team

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