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How will advanced connectivity impact commercial domains?

To realize the full value at stake, persistent issues need to be solved

Value Chain Coordination

Barriers like competition, technical standard variance, and limited collaboration may introduce a need for ecosystem player coordination

Use Case Fragmentation

Value potential is fragmented across hundreds of use cases and different domains without a single concentration of demand

Misaligned Incentives

Ecosystem participants that assume the cost and risk of investment may not be the ones who capture the resulting value

Data Complexities

Cross-industry standards to ensure data privacy, security, ownership, and systems interoperability are still evolving

Deployment Constraints

Constraints (like physical roll out barriers, regulatory, uncertainties, and long investment cycles) may slow down adoption

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Deep dive

How will advanced connectivity impact commercial domains?

These use cases could boost global GDP by up to $2 trillion by 2030

Mobility

$170-$280 billion

Research estimates the GDP impact in mobility by 2030

Connectivity could open up new revenue streams through preventive maintenance, improved navigation and carpooling services, and personalized "infotainment" offerings

Vehicle-to-infrastructure and vehicle-to-vehicle communications can prevent collisions, enable various levels of vehicle autonomy, and improve traffic flow

Healthcare

$250-$420 billion

Additional investment capacity in healthcare and global GDP impact by 2030

Low-latency networks and high densities of connected devices and sensors could make it possible to monitor patients at home in real time, which could be a major boon in the treatment of chronic diseases

Data can flow seamlessly throughout entire medical systems to smooth operations and coordinate care

AI-powered decision support tools can make faster and more accurate diagnoses, and many tasks can be automated so that caregivers can spend more time with patients

The ability to aggregate and analyze enormous data sets could yield new treatments

Manufacturing and other advanced industries

$400-$650 billion

GDP impact in manufacturing by the decade's end

Low-latency and private 5G networks could enable highly precise operations

Smart factories powered by analytics, artificial intelligence, and advanced robotics can run at maximum efficiency, optimizing and adjusting processes in real time – not only on select assembly lines but across multiple plants

A growing number of factories will incorporate features such as automated guided vehicles and computer-vision-enhanced bin picking and quality control; these functions require the kind of speeds and ultra-low latency that high-band 5G networks provide

Retailers

$420-$700 billion

Use cases in retail boost GDP

Sensors, trackers, and computer vision could help manage inventory, improve warehouse operations, and coordinate along the supply chain

Connectivity can support frictionless in-store experiences – for example, eliminating checkout and adding augmented reality for better product information

Real-time personalized recommendations and promotions can increase sales

Some innovative retailers have already begun experimenting with and implementing some of these use cases, and advances in technology and affordability should lead to broader adoption by the decade's end