The pharmaceutical industry is flooded with data, from discovery through clinical trials and commercial operations. The availability of real-time information is on an upward trajectory, including the use of electronic medical records, databases of insurance claims, fitness wearables and social media. Big Pharma is already linking and mining their data sets to improve pipelines, products and strategies. As a result, they are required to transmit massive volumes of data — and are increasingly relying on high-performance, secure private and public cloud connectivity.

At the same time, personalized medicine is driving digital transformation to support disease prevention and drug actions, opening opportunities to match therapies to patient populations. Digitally enabled “beyond the pill” solutions include sensors to collect and analyze data to monitor a patient’s condition between visits to healthcare providers. These solutions also enable data that demonstrates the superior efficacy of medications to payers and governments — critical to retaining market access and premium pricing.

As the threat surface continues to expand, protecting intellectual property and commercially sensitive data is imperative. Foreign state actors pursuing intellectual property such as access to compound information and clinical trial data remain a significant threat.

**Lumen delivers network connectivity, IT solutions and consulting services to help leading Pharmaceutical firms in their digital transformation**

- Power data science with the network and expertise to move, store and manage massive amounts of data leveraging the LumenSM Big Data as a Service solution.
- Build defense in depth by protecting proprietary data with our connected security solutions.
- Evolve your IoT strategy and enable personalized medicine with a big data infrastructure to capture, store, aggregate and manipulate sensor data.
## Adaptive Networking and IT Solutions

### Networking
- SD-WAN
- MPLS / IP VPN
- Hybrid WAN
- Internet
- Ethernet
- Wavelength

### Business Bundles
- Business Internet
- Business Wi-Fi
- Fiber and Internet
- Managed Internet

### Content Services
- CDN
- Vyxx Video Service

### Cloud Services
- Public and Private Cloud Services
- Cloud Application Manager
- Cloud Connect
- Managed Hosting
- Data Centers

### Integrated Solutions
- Big Data as a Service
- Internet of Things
- SAP Ecosystem
- Resiliency Services

### Security and Compliance
- Cloud-Based Security
- Premises-Based Security
- DDoS Mitigation
- Web Application Firewall
- Threat Intelligence
- Security Log Monitoring
- Incident Response
- Cybersecurity Consulting

### Managed Services
- Application Management Development
- Operating System Management
- Infrastructure Management
- Managed Network Services
- Pro-Services

### IT Consulting Services
- Strategy, System and Technology Design and Transition

### Voice and Unified Communications
- Voice Complete
- Hosted VoIP
- Enterprise SIP
- (VoIP19)

### Traditional Voice

### Unified Communications

### Contact Center

### Business Bundles
- Managed Security

### About Lumen
Lumen (NYSE: CTL) is the second largest U.S. communications provider to global enterprise customers. With customers in more than 60 countries and an intense focus on the customer experience, Lumen strives to be the world’s best networking company by solving customers’ increased demand for reliable and secure connections. The company also serves as its customers’ trusted partner, helping them manage increased network and IT complexity and providing managed network and cybersecurity solutions that help protect their business.