

New trends in ICT

KAL/KOAJ3 – Professional English III

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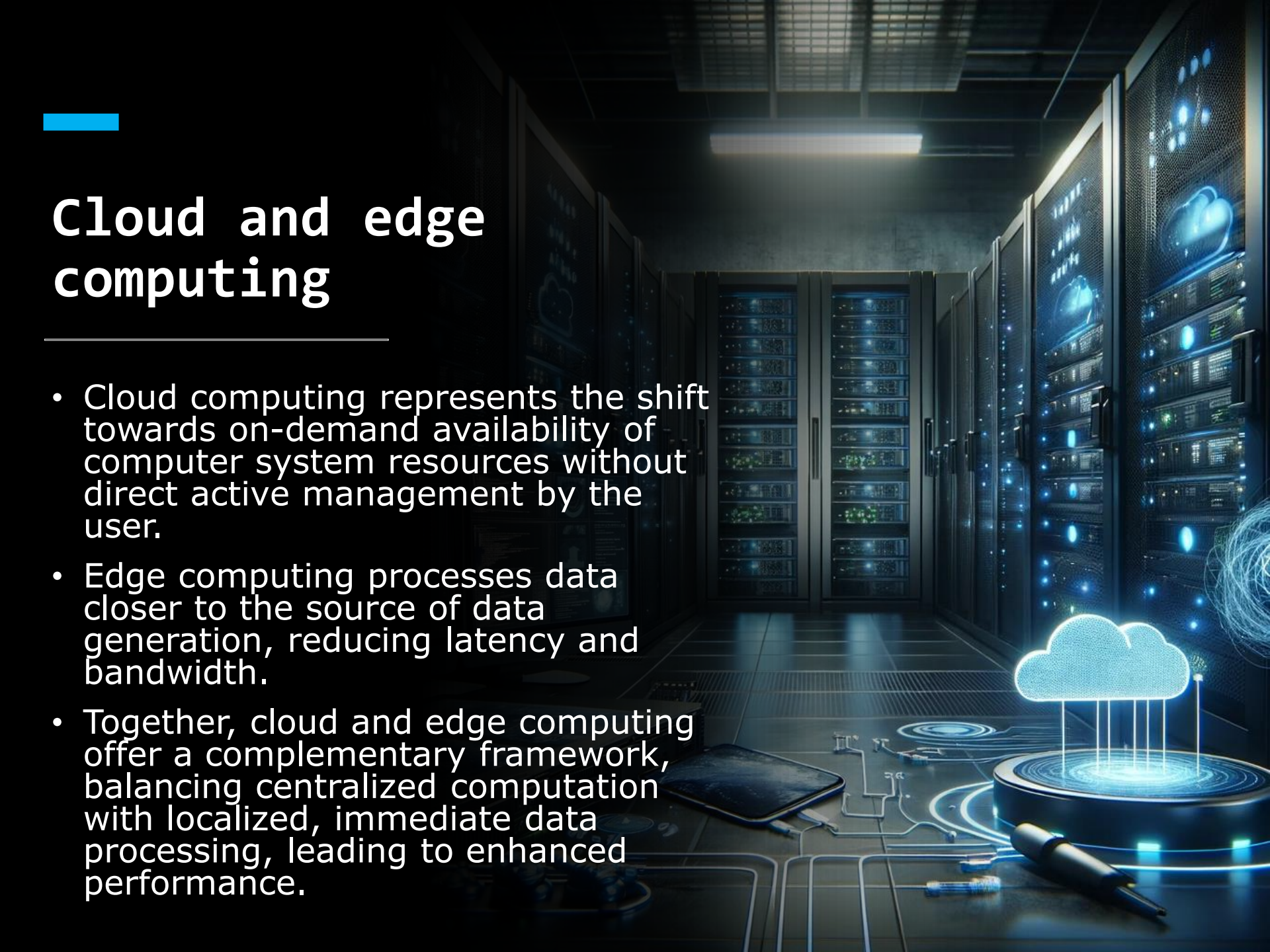
Internet of Things

- Network of devices with internet connectivity, aiming to collect and exchange data.
- Projected to exceed 75 billion devices by 2025.
- The surge of IoT devices presents challenges in security, privacy, and data handling, necessitating advanced solutions for integration and protection.



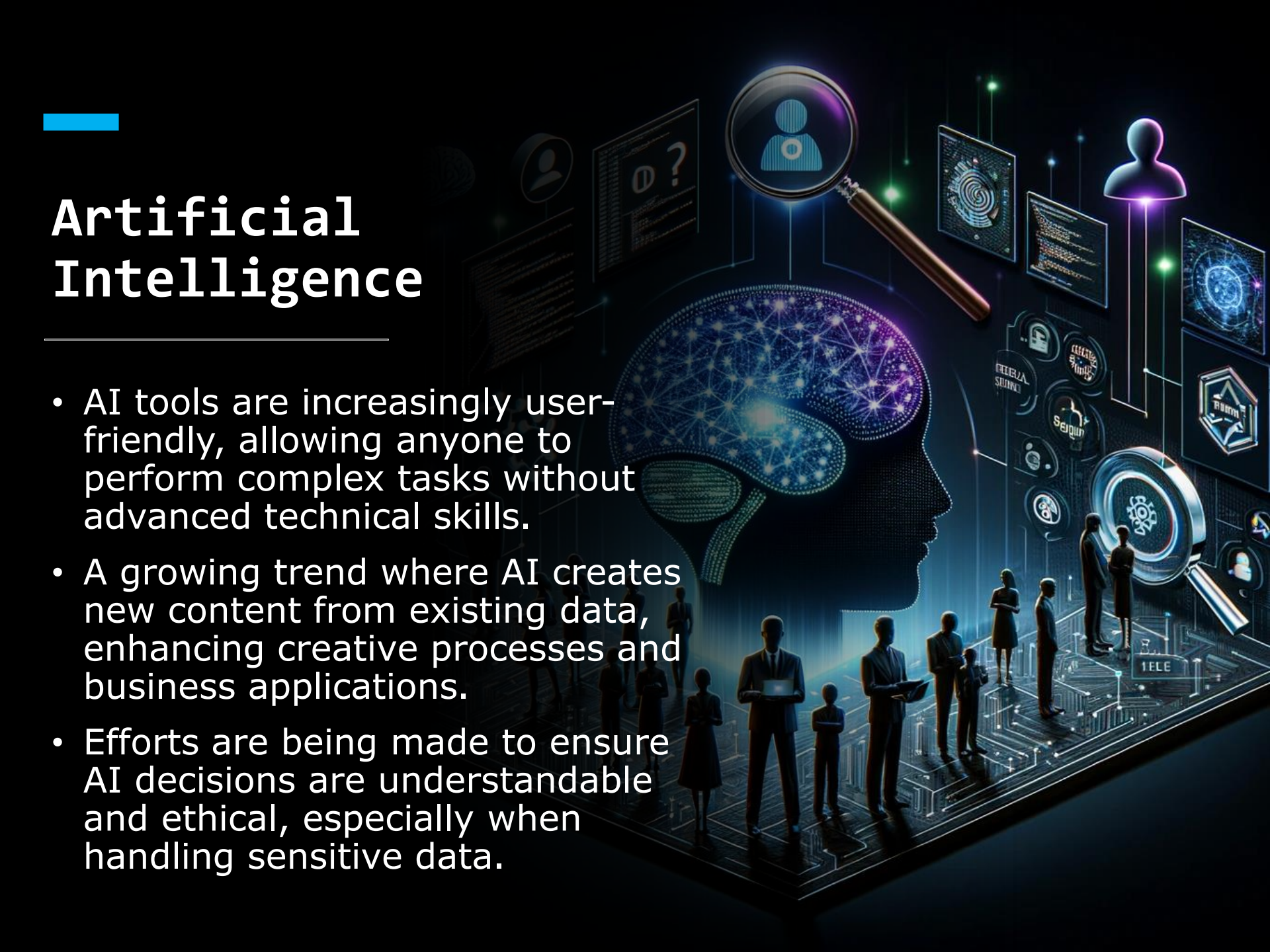
Cloud and edge computing

- Cloud computing represents the shift towards on-demand availability of computer system resources without direct active management by the user.
- Edge computing processes data closer to the source of data generation, reducing latency and bandwidth.
- Together, cloud and edge computing offer a complementary framework, balancing centralized computation with localized, immediate data processing, leading to enhanced performance.



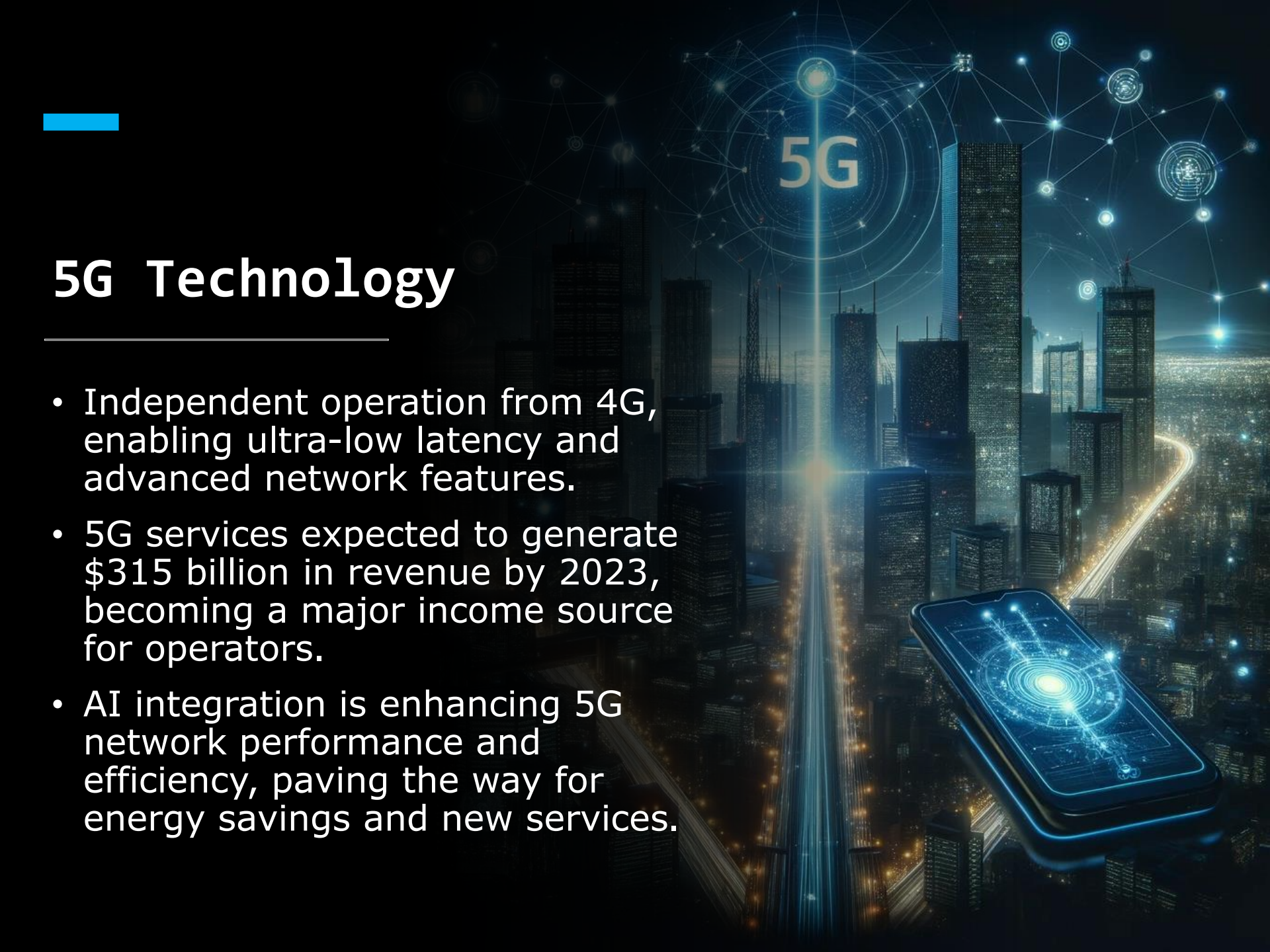
Artificial Intelligence

- AI tools are increasingly user-friendly, allowing anyone to perform complex tasks without advanced technical skills.
- A growing trend where AI creates new content from existing data, enhancing creative processes and business applications.
- Efforts are being made to ensure AI decisions are understandable and ethical, especially when handling sensitive data.



5G Technology

- Independent operation from 4G, enabling ultra-low latency and advanced network features.
- 5G services expected to generate $315 billion in revenue by 2023, becoming a major income source for operators.
- AI integration is enhancing 5G network performance and efficiency, paving the way for energy savings and new services.



Cybersecurity

- AI and automation are increasingly integrated into cybersecurity, becoming essential for modern security operations
- Proactive defense against evolving ransomware attacks is crucial for protecting sensitive data.
- Adopting a zero-trust security model, which operates on the principle of "never trust, always verify," is becoming a standard.



Blockchain Technology

- Blockchain provides a secure, transparent platform with low transaction fees, though scalability remains a challenge.
- Blockchain is set to expand in industry and IoT, with rising investments and demand in logistics and commerce.
- New standards and technologies in blockchain are enhancing transaction speeds, reducing costs, and enabling cross-platform compatibility.



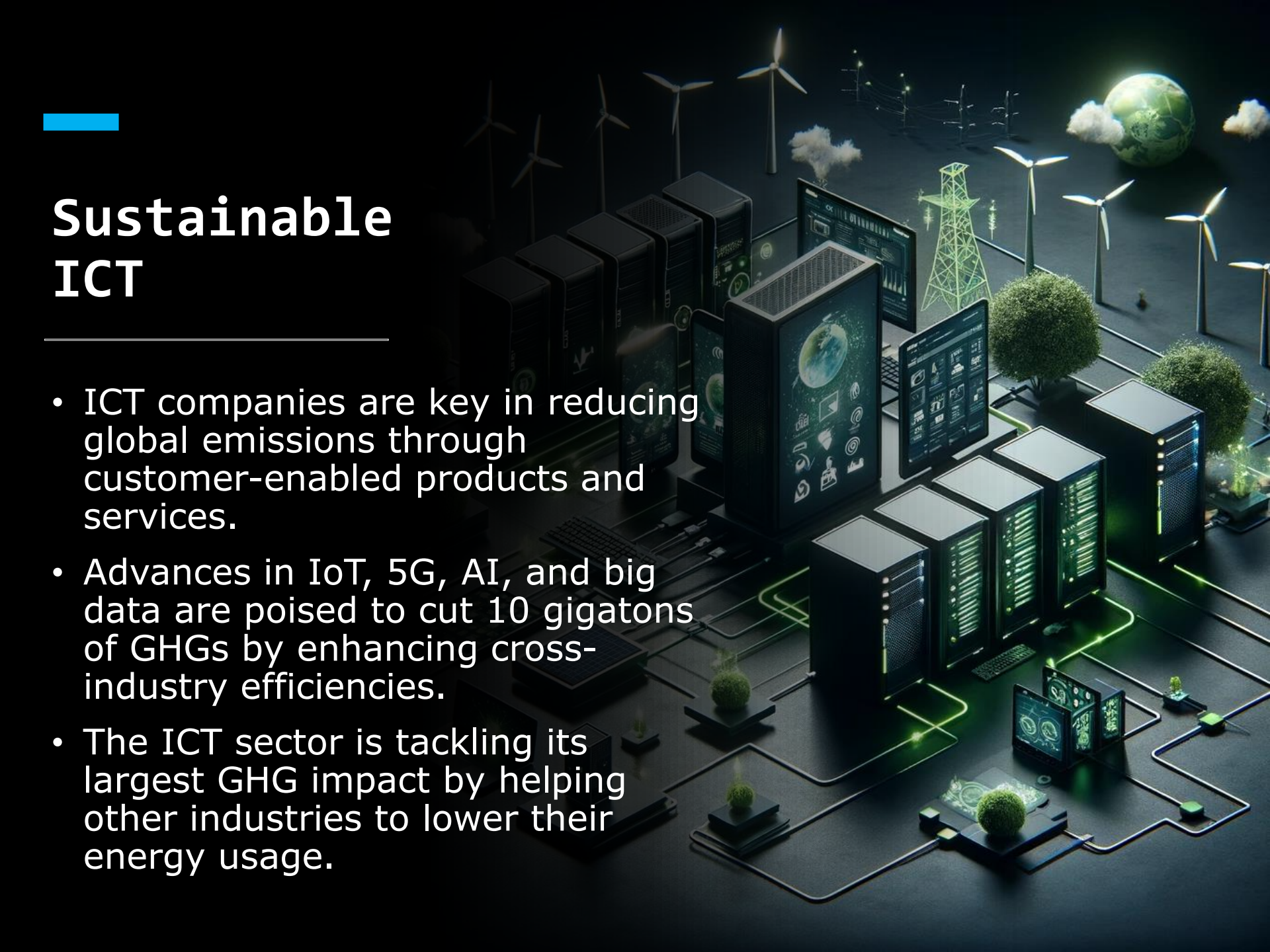
AR and VR

- Advances in VR and AR are leading towards fully immersive experiences, with new gear like haptic suits and gloves enhancing sensory engagement.
- VR is revolutionizing education, with VR-simulated classrooms allowing for practical application of theories and enhancing training in fields like medicine and the military.
- AR is becoming a critical tool in medical imaging and diagnostics, providing real-time visualization of medical data and aiding in treatment planning.



Sustainable ICT

- ICT companies are key in reducing global emissions through customer-enabled products and services.
- Advances in IoT, 5G, AI, and big data are poised to cut 10 gigatons of GHGs by enhancing cross-industry efficiencies.
- The ICT sector is tackling its largest GHG impact by helping other industries to lower their energy usage.



Conclusion

- **Connectivity**: IoT and 5G are enhancing global interconnectivity.
- **Data Efficiency**: Cloud and edge optimize data processing.
- **AI & Blockchain**: Spurring cross-industry efficiency and security.
- **Cybersecurity**: AI-driven, zero-trust models protect data.
- **Sustainability**: ICT reduces emissions, promotes green tech.

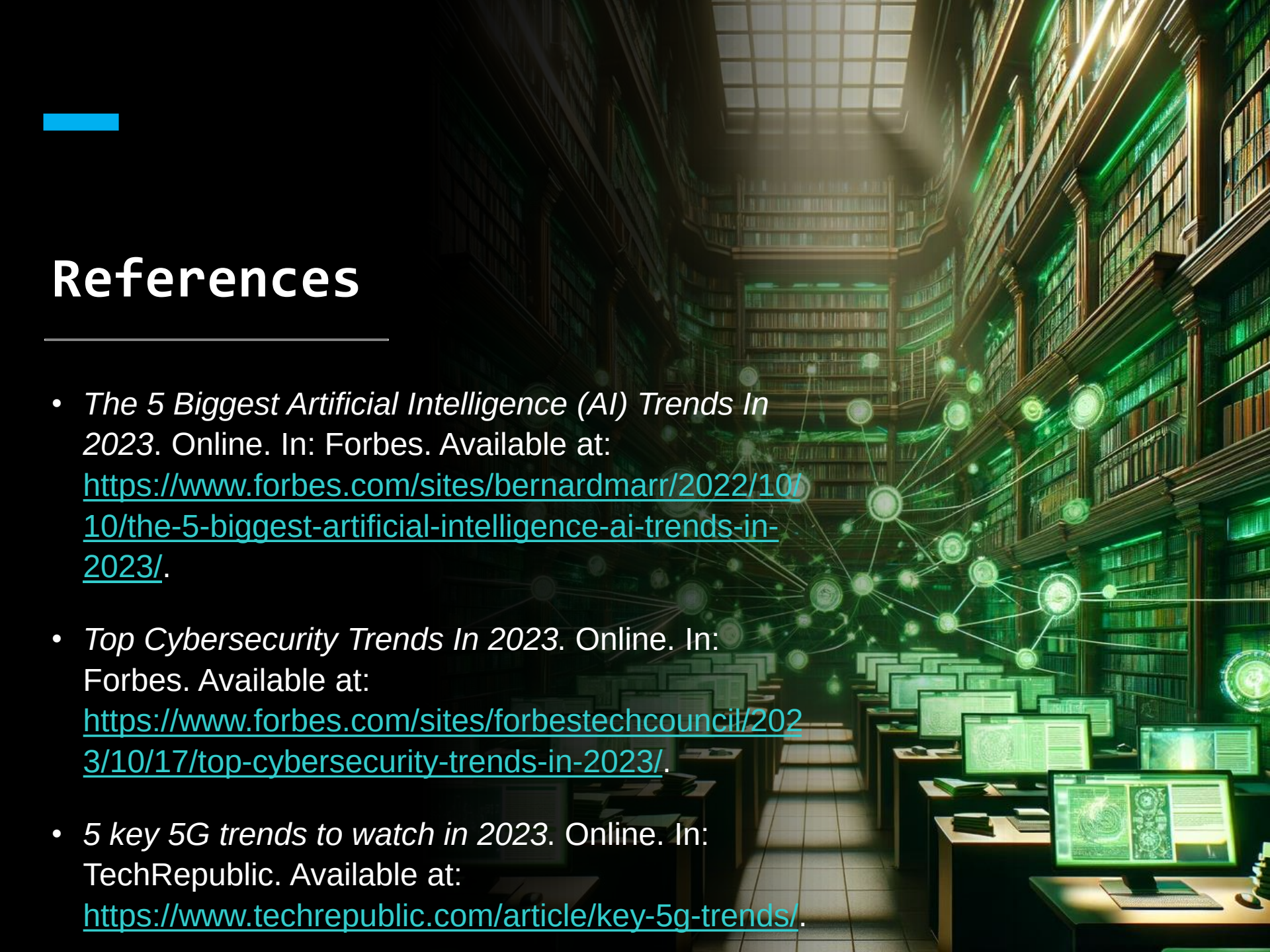


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References

- Some parts of the presentation were made using ChatGPT https://chat.openai.com/
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