THE FUTURE OF **DISRUPTIVE TECHNOLOGY**

Toffler Associates' perspective on the Future of Disruptive Technology is derived from our understanding of drivers shaping the future, insights from interviews with wide ranging industry and technology business leaders, and deep research across scientific, academic, patent applications, and other key sources

Technology will transform how we connect, learn, share and innovate in the future, having broad implications for organizations, workforces, and customers. Whether from great expectations, fears of job security, or uncertainty due to myriad options, technology is challenging leaders to reconsider how they will create and protect value in the future.

THE ANALYSIS

250+ Interviews

1500+ Journals & Papers

10,000+ Patents

40+ Industries

70+ USG Strategic Plans

Our analysis uncovered a common theme of challenges in workforce planning, development, and engagement across all industries and of concern to leaders at all levels.

80% Feel their workforce is not prepared for disruptive technology.

80% Unsure how best to engage with and prepare their workforce for preparation for new technologies.

80% Automation and artificial intelligence will completely transform business and the workforce required.

100% Uncertain of right actions to take to harness both people and machines.

90% Current notions of privacy cannot be maintained and must adapt.

~90% Human-Machine Integration is a critical challenge facing all organizations.

FOUR AREAS OF INTEREST

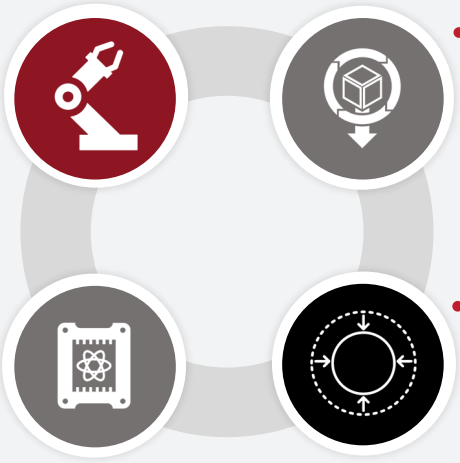
Focusing on technology trends and disruptions most likely to directly impact the Defense, Intelligence, and Healthcare markets in the next decade, we identified four distinct areas of interest. Each area clearly holds impacts for the other, highlighting the complexity of future technology resource decisions. Applications of each can be hindered or advanced depending on investments in others.

Automation

- Applications: Data analysis, decision support, monitoring and diagnosis
- E.g. Artificial Intelligence, machine learning, deep learning

Continuous Optimization

- Applications: Flow management, urban planning, air traffic management
- E.g. Software defined networking, robotic process automation



Quantum Computation

- Applications: deep resource location, materials science, bio sensors
- E.g. encryption, simulation, and sensing (including gravimetric)

Miniaturization

- Applications: system on a chip, sensor development, power and weight reduction
- E.g. Additive manufacturing, nanophotonics, photovoltaics

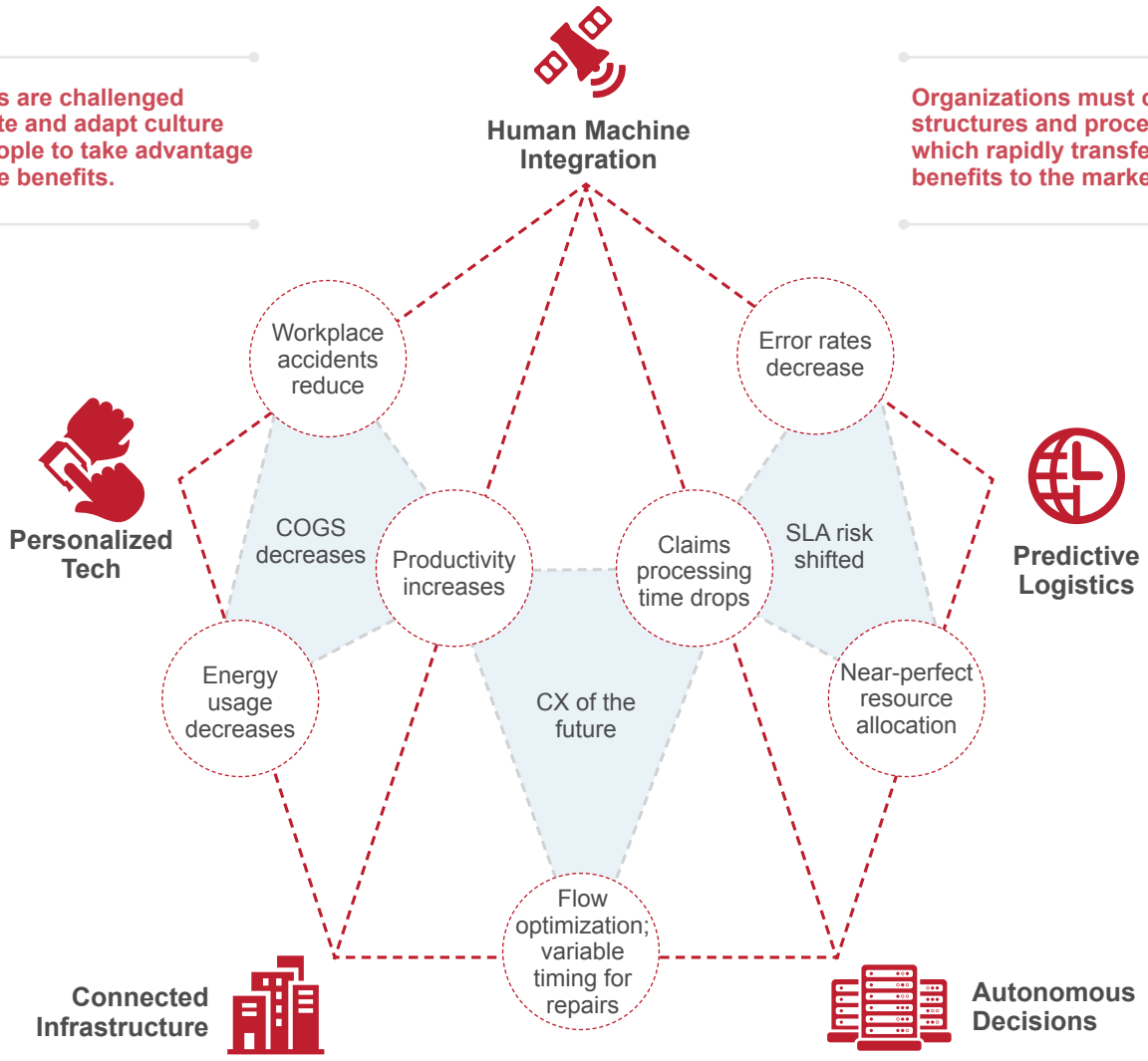
While many of these are not new and some concepts have existed since the Industrial Age, they evolved with significant implications for leaders in these markets, creating opportunities and risks both on the production and consumption side.

In the coming decade, access to information will only increase, resulting in constant pressures to drive efficiencies, customize experiences, optimize decision making, and build agile and resilient organizations capable of predicting and delivering value to myriad stakeholders.

BENEFITS OF DISRUPTIVE TECHNOLOGY

Leaders are challenged to create and adapt culture and people to take advantage of these benefits.

Organizations must create structures and processes which rapidly transfer these benefits to the market.



QUESTIONS FOR SUCCESSFUL ORGANIZATIONS

Taking advantage of these trends and disruptions starts with considering key questions for leaders and their organizations, recognizing the implications to customers and employees alike.

- [ ] How does my organization take advantage of emerging technologies to create value?
- [ ] How do I know when and where to invest? What is real and what is hype?
- [ ] How am I engaging my workforce and customers about our technological future?
- [ ] How will technology change how I interact with and serve my customers?
- [ ] How does my organizational culture prepare my workforce for emerging technology?

Successful organizations need to transform their approach to emerging technologies, recognizing that the integration of humans and machines requires investment in both. How is your team preparing for the future of technology?

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