

# Digital Transformation: 5 Game-Changing Technologies for Business





## Overview

Imperial Digital Transformation is an online programme brought to you by Executive Education at Imperial College Business School.

This immersive and interactive programme explores the five biggest game-changing technologies that are driving digital transformation across organisations and industries—from the cloud and the internet of things to big data, artificial intelligence, and blockchain.

As a participant, you'll learn from Imperial thought leaders, case studies and your peers about how to use these technologies to implement digital transformations across your organisation.

The eight-week (excluding orientation) programme combines live online teaching sessions and video lectures with interactive activities and assignments to enable high-impact learning.

You will receive personal support throughout the programme from a dedicated Learning Team and finish the programme prepared to implement what you've learnt.

On completion you will receive a verified Digital Certificate from Imperial College Business School Executive Education.



## Who is this programme for?

This programme offers a non-technical, broad overview of new technologies that are impacting companies across every industry. Digital transformation is an essential topic for professionals including:

- Technology managers and executives who seek to understand the technologies that drive digital transformation and how to implement them to drive digital transformation in their organisation
- Functional managers across industries looking to master different areas of transformation and implement a strategy within their function or organisation.
- Consultants looking to understand the latest technologies driving digital transformation and create an IT strategy and technology roadmap to help their clients achieve better results.

# 29 billion

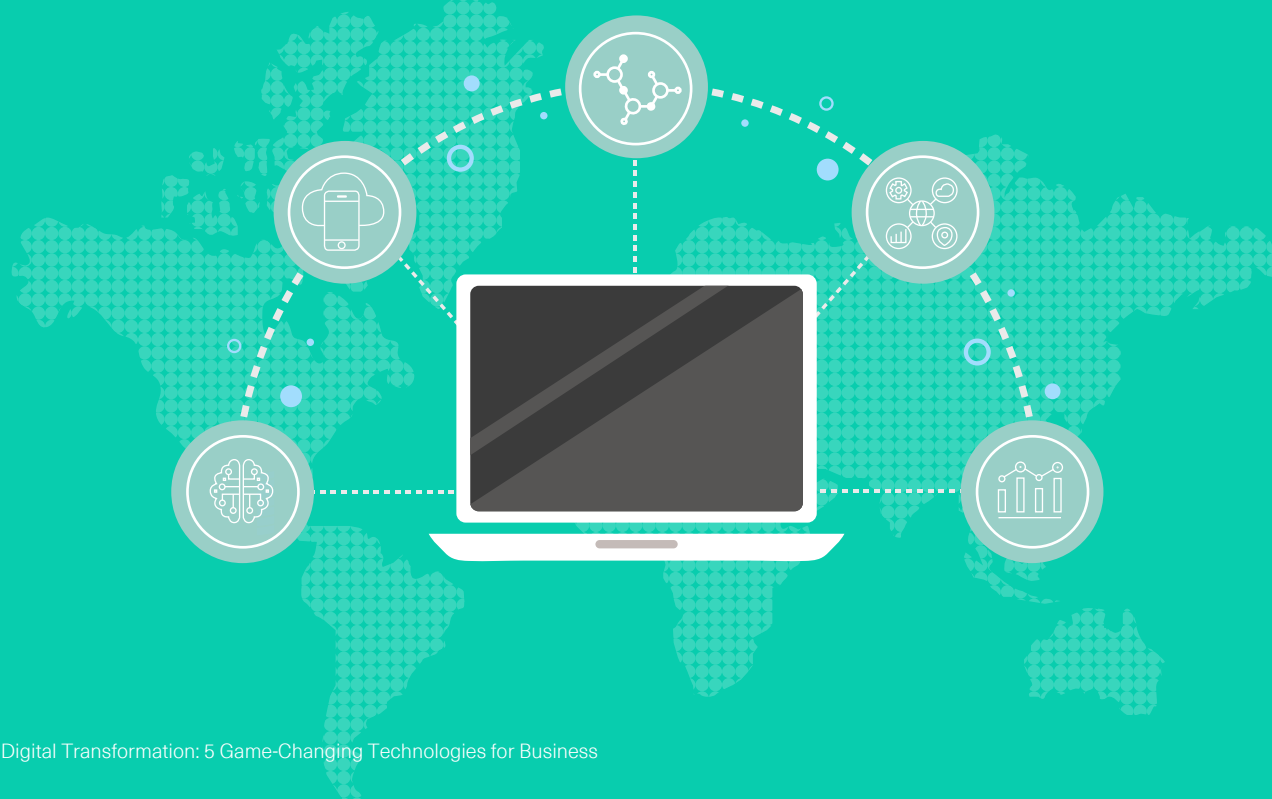
**Number of IoT devices connected to the Internet globally by 2022.**

Source: Ericsson

# 2x

**Workloads deployed in cloud infrastructure and platform services are expected to double by 2023, increasing from 20 to 40 percent**

Source: Gartner





## The Imperial advantage

# #1

Career Prospects  
Guardian University  
Guide – 2022

UK

# #1

The Times and Sunday Times  
Good University Guide  
University of the Year – 2022

# #1

For Student Experience  
The Times and Sunday Times  
Good University Guide – 2022

# #3

QS World University  
Rankings – 2022

Europe

Business  
School of  
the Year

Shortlisted, Times  
Higher Education  
Award – 2021

World

As part of Imperial College London, a global leader in science and technology, Imperial College Business School drives global business and social transformation through the fusion of business, technology and an entrepreneurial mindset.

We combine innovative thinking and insight with new technology to develop solutions to real world issues, benefiting business and improving society.

Our world-leading researchers pioneer practical solutions and their research excellence and long-established capabilities inform our Executive Education programmes. We create and deliver remarkable learning experiences with a lasting positive impact.

Our thought leadership is sought by governments, policy-makers and global business leaders, who often partner with us on research projects. We consistently rank among the top business schools in Europe and worldwide. We attract brilliant minds and provide the environment to foster innovative and entrepreneurial thinking, resulting in ground-breaking ideas that unlock business opportunities.



## How we deliver our programmes



Our programmes are crafted via rigorous planning and interrogation by our academics and pedagogy experts.



The Learning Team are constantly available to assist and support participants throughout the learning experience.



Our bespoke learning framework consistently encourages group learning through community engagement and high touch social interactions.



Our transformational learning experience is a result of engaging, stimulating and diverse learning media which fosters real time feedback and interaction.

## The participant experience



The Digital Certificates earned through our online programmes are exactly equal to the hard work and dedication it takes to earn the campus equivalent.



Our participants never feel alone in their learning experience. The platform is built around a deeply interactive peer connected environment.



Whilst structured, the learning experience is flexible enough for participants to fit their studies around their busy lives.



Our learning design is multi-dimensional and highly interactive. There is a continuous focus on pedagogical variety and live content.

## Human

We create people-centric learning experiences. From conception through to delivery, we are guided by the principle that learning is a creative, personal and, above all, human process. Our high quality, crafted learning environments are highly interactive, community-orientated and actively tutored. Our programmes offer an engaging experience designed to facilitate natural learning behaviours.

## Real

No compromise. Our online programmes offer the absolute equivalent of our campus-based programmes. They adopt the same rigorous academic standards, are delivered via our world-leading faculty and offer a comparable high-touch approach to the classroom experience.

# The Imperial impact

We have a culture of working across disciplines to bring a diverse and multifaceted point of view to business challenges. Through our Institutes and Research Centres we transcend boundaries, uniting world leading experts from a variety of research areas. We also engage with international organisations, SMEs and policy-makers around the world, address key challenges for modern business and create practical solutions with significant real-world impact.

Examples of our Institutes and Research Centres:

## The Leonardo Centre on Business for Society

The Leonardo Centre engages thought leaders across business sectors and scientific disciplines to originate path-breaking initiatives for more purposeful, inclusive and sustainable ways of doing business.

## The Data Science Institute (DSI)

The cross-faculty DSI acts as a focal point for coordinating data science research at Imperial College London by engaging with global partners, stimulating collaboration across a broad spectrum of disciplines, translating research into social and economic impact as well as offering an advanced education programme to train a new generation of data scientists.

## The Dyson School of Design Engineering

Opened in 2014 to fuse together design thinking, engineering knowledge and practice, to foster a culture of innovation and enterprise, and to help solve global problems with emphasis on sustainability, entrepreneurship and societal impact.

## The Brevan Howard Centre for Financial Analysis

The Centre serves as a bridge between Imperial College Business School, disciplines including engineering and computational finance and the world of business, to develop a greater understanding and more efficient management of risk, and to promote investment and productivity.

## Centre for Global Finance and Technology

Imperial College Business School's hub for the interdisciplinary research needed to innovate, reveal insights and answer questions; bringing together the activities of academics, start-ups, established industry and governmental organisations to understand of the impact of technology on finance, business and society.

## Institute of Global Health Innovation

Co-creating and diffusing healthcare innovations to tackle some of the most pressing global challenges facing people today. The Institute is a powerful engine which collaborates with a rich network of internal and external partners from academia, industry, government and the charitable sector.

## The Energy Futures Lab

Founded in 2005 to develop multidisciplinary collaborations that tackle the broad range of energy challenges that the world faces. The Energy Futures Lab enhances impact in the themes of Policy and Innovation, Energy Infrastructure, Sustainable Power, Low Carbon Cities and Transport and Clean Fossil Fuels.



# Programme highlights

As a participant, you will learn to master game-changing technologies that are driving digital transformation and use them to implement digital transformation across your organisation. No matter where your organisation is in your transformation journey, you'll walk away with actionable insights and a solid strategy to successfully move your organisation forward.

- **Learn** about digital technologies used in digital transformation projects
- **Explore** the sources of value of digital transformations for businesses
- **Consider** challenges of privacy and security in digital transformations
- **Assess** digital tools, technologies, processes and their uses
- **Evaluate** the use of digital solutions for business problems
- **Suggest** new business solutions that are enabled by advances in digital technologies
- **Apply** principles of digital transformation to real-world business problems
- **Develop** a framework for digital transformation within your organisation
- **Propose** digital innovations that build on existing business infrastructure
- **Recommend** appropriate approaches to infrastructure, data governance and change management to support digital transformations





## Programme faculty



### Christopher L. Tucci, Imperial College Business School

Christopher L. Tucci is Professor of Digital Strategy & Innovation. He was Professor of Management of Technology at the Ecole Polytechnique Fédérale de Lausanne (EPFL), where he held the Chair in Corporate Strategy & Innovation. In 2018, he was Visiting Thought Leader at CEIBS in Shanghai, China. He received the degrees of Ph.D. in Management from the Sloan School of Management, MIT; SM (Technology & Policy) from MIT; and BS (Mathematical Sciences), AB (Music), and MS (Computer Science) from Stanford University. He was an industrial computer scientist involved in developing Internet protocols and applying artificial intelligence tools. Professor Tucci teaches courses in Design Thinking, Digital Strategy, and Innovation Management. His primary area of interest is in how firms make transitions to new business models, technologies, and organisational forms. He also studies crowdsourcing, Internetworking, and digital innovations. He has published articles in a wide range of journals, and his article with Allan Afuah, "Crowdsourcing as solution to distant search," won the Best Paper of 2012 for Academy of Management Review, considered the #1 journal in Business and Management. He is currently an Associate Editor of Academy of Management Discoveries. He has served in leadership positions in the Academy of Management (AOM) and the Strategic Management Society.





## Participant testimonials

I enjoyed the programme content and loved the non-graded assignments that test your knowledge as they often require you to do extra research to better understand the topic. Getting an insight as to how my fellow students respond to certain questions has also been useful. The interviews with different industry experts have been very insightful and Clark has provided a wealth of information during the office hours. Great additional resources each week!

– **Sandra Weis, Consultant/Founder, Hot Spots Group, LLC**

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Being from a background that isn't technology, each module brought new learnings to me. I enjoyed it all almost at the same level. I set up a management consulting business after 38 years of corporate life, and I felt really privileged to be part of this programme right at the onset of my own entrepreneurial life.

– **Jethro Nyakunu, CEO, Change Leadership Consulting Ltd**

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The programme was well structured, with the right balance of teachings, whiteboards, assessments, case studies, industry insights, interviews with 'Gurus', live classrooms and office hours. It was my first immersive online programme experience, and I'd say it was the best thing I pursued this year.

– **Sayli Yadav, Intelligent Automation (IA) CoE Manager, Digital Technologies, Toll Group**

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The curriculum was the best part that walked you through all the variants within the digital transformation space. The information was practical and actionable, with summarised transcripts so I could review the content and not forget what I learned and the activities at the end of the modules.

– **Gabriela Murillo, Regional Director Supply Chain, Giesecke+Devrient**

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The programme content was clear and well presented by Professor Tucci. I enjoyed hearing from industry experts, especially about their career journeys. Very useful supporting materials and resources and happy to have access to these for a year. I anticipate that I will review the topics discussed many times, so having access for a year is a big plus.

– **Aisling McGivern, Digital & Technology Manager, Heineken**



# What you will learn

As a participant in this programme, you will learn to master the technologies that are driving transformation, and develop your own strategy to put them to work in your business.

## Week 1: Orientation

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### Phase 1: Technologies Driving Digital Transformation

#### Week 2: The Cloud and Mobile

- Describe what the cloud is and how it works
  - Evaluate when it makes sense to store data in the cloud vs on the "edge"
  - Assess the importance of mobile devices in your business
  - Analyse to what extent 5G will change how value is delivered in business
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#### Week 3: The Internet of Things

- Describe the Internet of Things and its functions
  - Compare and contrast the Internet of Things and Industry 4.0
  - Analyse the benefits and risks of IoT to business
  - Analyse the potential of IoT in creating new business innovations
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#### Week 4: Big Data Analytics

- Distinguish between the roles of data science and data engineering
  - Analyse the patterns of change in price and performance of key digital technologies
  - Interpret and create data visualisations and make related recommendations
  - Devise a big data dashboard that would be useful to an organisation's operations
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#### Week 5: Automation and Artificial Intelligence

- Compare successes and failures of AI
- Suggest new areas of innovation for existing digital capabilities, such as voice recognition
- Identify opportunities for new technologies to disrupt existing industries
- Debate the impact that AI and automation will have on jobs



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## Week 6: FinTech and Blockchain

- Identify the components of a financial ledger
  - Compare sources and examples of fraudulent financial activities
  - Discuss how blockchain enables trust
  - Analyse the utilisation and success blockchain applications in a range of financial sectors
  - Suggest technology innovations that could impact subsectors in financial services
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## Phase 2: Implementing a Digital Transformation

### Week 7: Sources of Value in a Digital World

- Identify sources of digital value
  - Compare and contrast sources of value in a digital vs "offline" world
  - Recommend steps to digitise a traditional customer journey
  - Evaluate digital transformations for customer value
  - Identify service design opportunities in an organisation
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### Week 8: A Framework for Implementing Digital Transformation

- Identify efficiency problems that can be solved through digital transformation.
  - Analyse the role of digital transformation in achieving operational efficiency
  - Generate ideas for improving an organisation's efficiency through the use of digital tools
  - Suggest opportunities for strategic innovation in organisations that are using digital solutions
  - Compare and contrast effective change management strategies
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### Week 9: Considerations of Privacy and Security

- Discuss the business value of privacy and security
- Identify types of organisational data that should be protected
- Generate examples of security breaches that might adversely affect a brand
- Suggest cyber security threats that could have a major impact on an organisation
- Define the critical roles related to data governance

## Digital Transformation Capstone Project

During the course of this programme, you will develop and refine a business case and plan for a project or initiative at your own organisation. The purpose of this plan is to help your own organisation along the Digital Transformation path, regardless of where it currently is in this journey.

Personalised feedback will be given on your submission with the goal of building a preliminary plan that you can put into action.

If your own organisation is not appropriate for this project or you are not currently affiliated with an organisation, you may select any company with which you have some familiarity. Please note that completion of the Capstone Project is required in order to earn the Certificate of Participation for this programme.





## Case Scenarios and examples

The case scenarios and industry examples featured throughout the programme provide a wide-ranging look at how companies, organisations, and governments are using technology to drive transformation.



### Cloud and Mobile

- **Zynga:** Filling gaps with mobile solutions



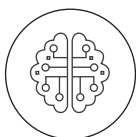
### IoT

- **Cemex:** Automated digital communication through the use of sensors.



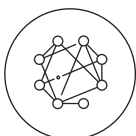
### Big Data Analytics

- **L'Oréal:** Using big data to predict the next “must have” beauty product



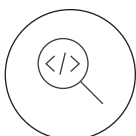
### AI & Automation

- **Tesla:** Leveraging opportunities for new technologies to disrupt existing industries



### FinTech & Blockchain

- **Ali Pay:** Analysing the impact of technology applications on financial brands



### Source of Value

- **LinkedIn:** Devising digital solutions for service problems



### Framework for Digital Transformation

- **Cemex:** Innovating in organisations that already use digital solutions.

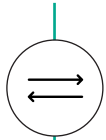


### Privacy & Security Considerations

- **IBM Watson:** Revealing algorithmic bias in technology solutions

## A remarkable learning experience

The programme is spread over eight weeks (excluding orientation) and includes live webinars, video lectures, case studies, discussions and assignments.



### Orientation

The first week is orientation week. During this week you will be introduced to the other participants in the class from across the world. You will learn how to use the learning management system and other learning tools provided.



### Goal setting

In other weeks, you have learning goals set for the week, including watching the video lectures and completing the assignments. All assignments have weekly deadlines.



### Video lectures

The recorded video lectures are conducted by programme faculty. These dynamic lectures are designed to be high impact and reinforce learning.



### Live webinars

Throughout the programme, there are live webinars conducted by programme faculty.



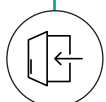
### Interactive activities

Activities like discussions and polls make the programme highly interactive and allow you to share your perspectives with participants from around the world.



### Follow-up

A Learning Team will provide ongoing personalised support and check on your progress throughout the programme, including if you are unable to submit assignments on time.



### Continuous programme access

You will continue to have access to the programme videos and learning material for up to 12 months from the programme start date.



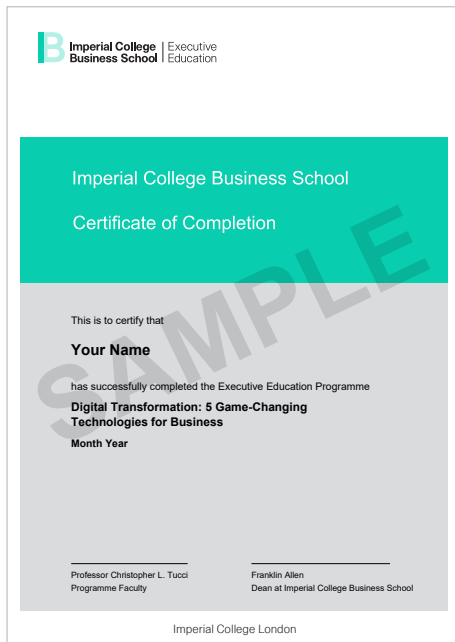


## Certificate



Upon completion of the programme, participants will be awarded a verified Digital Certificate of Participation by Imperial College Business School Executive Education.

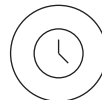
Imperial College Business School is collaborating with online education provider Emeritus to offer online programmes. This allows us to broaden access in a collaborative and innovative format that stays true to our distinctive methods of learning, content and outstanding quality.



## Programme details



9 weeks, online



4–6 hours per week



£1,280

Flexible payment options and financing plans are available.

Schedule a call with a Programme Advisor to learn how this programme can help you:

[SCHEDULE A CALL](#)

Apply for the programme here:

[APPLY NOW](#)

Refer your colleague and receive a benefit:

[REFER NOW](#)

Prospective participants with questions about the programme are encouraged to contact Emeritus for further information.

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Imperial means  
**Intelligent Business**