

Brexit meets Industry 4.0

Level: Intermediate +

Time: 90 minutes +

Summary: This lesson is about Industry 4.0 – also called the Fourth Industrial Revolution, and the role that post-Brexit Britain will play in it. In this lesson, students:

1. discuss well-known public figures;
2. study a text about how Britain will continue to play an important role in the Fourth Industrial Revolution despite Brexit;
3. look at investment opportunities;
4. write a proposal;
5. research the differences between 'hard' and 'soft' Brexit.

Materials: One copy of the worksheet per student

Group size: Any

Note: This lesson plan is for both pre-experience and in-work business students based on an original article first published in *Business Spotlight* issue 5/2017.

Warmer

Students talk briefly about these people, saying what (if anything) they know about them, before scanning the article to see what is written about them there.

Key:

1. *They are/were all British.*
2. *Mary Quant commercialized the miniskirt.; Tim Berners-Lee invented the World Wide Web.; Alan Turing was a codebreaker at Bletchley Park during WWII. (He played a major role in cracking intercepted coded messages that enabled the Allies to defeat the Nazis.)*

Key words

Students write the key words next to the definitions, then find the words in the article to read them in context.

Key:

- | | |
|-------------------------|----------------------|
| 1. <i>turning point</i> | 7. <i>era</i> |
| 2. <i>synonymous</i> | 8. <i>vigorously</i> |
| 3. <i>consumerism</i> | 9. <i>indicator</i> |
| 4. <i>referendum</i> | 10. <i>so-called</i> |
| 5. <i>majority</i> | 11. <i>immersive</i> |
| 6. <i>legacy</i> | 12. <i>dedicated</i> |

Understanding the article

Students answer the questions in pairs and compare their answers with the group.

Key:

1. *the time between 1760 to 1820 when the UK went from making things by hand to producing them in factories, with machines powered by steam*
2. *Manchester (in the north of England)*
3. *a mix of physical, digital and biological innovation driven by data, robotics and artificial intelligence, which will create unimaginable technologies and business opportunities*
4. *In June, 2016, the British people voted in a referendum to leave the EU.; In June, 2017, the Conservative Party won the general election but lost its majority.*
5. *Positive – he says that the legacy of top-class research and universities (such as Oxford) will not disappear when Britain leaves the EU. He believes that Britain will continue to be a major player in Industry 4.0, despite potentially losing EU funding.*

Investing in Britain 4.0

Students read about three UK 4.0 start-up companies in different fields of business. Explain that they each have £10,000 of their own money to invest in one of them. Individually, they should decide which one to invest in and why. Then, they sit in small groups and discuss their decisions and the reasons for them.

Writing a proposal

Students work in pairs or groups of three to do this task, which builds on task 4. Explain that the students' boss is so impressed with the investment decision made in task 4 that he wants to invest in one of the three companies, too. This time, the students have £100,000 to invest. But will they recommend that their company invests in the

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same start-up that they chose or one of the other two? Are a company's aims and motivation the same as those of an individual? What are the reasons for making an investment? Is it for profit, image, CSR (corporate social responsibility) or for other reasons?

Students plan and write a proposal for their boss as outlined in the task instructions. (**Note:** Useful guidance for writing a proposal can be found in this onestopenglish lesson: <http://www.onestopenglish.com/business/business-top-trumps/lesson-12-making-proposals>.)

Finally, they read each other's proposals and discuss who makes the strongest recommendation.

Web research

In pairs or small groups, students carry out online research related to the article. This could be set as a homework task.

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1 Warmer

a. Answer the questions about the following people.

Mary Quant	Tim Berners-Lee	Alan Turing
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1. What do these people have in common?
2. What is each one famous for?

b. Scan the article to check your answers.

2 Key words

Match the key words to the definitions. Then, find the words in the article to read them in context.

consumerism	dedicated	era	immersive
indicator	legacy	majority	referendum
so-called	synonymous	turning point	vigorously

1. a time when an important change takes place in a situation, especially one that makes it better

2. if one thing is _____ with another, there is an extremely close connection between them so that you cannot think of one without also thinking of the other
3. the belief that it is good for a country if people buy and use a lot of goods and services

4. an occasion when everyone in a country can vote to make a decision about one particular subject

5. the number of votes by which a person or party wins an election _____
6. something such as a tradition that exists as a result of something that happened in the past

7. a period of time that has a particular quality or character _____
8. with energy, enthusiasm and determination _____
9. something that shows you what condition something is in _____
10. used for saying that a particular word is usually used for referring to something

11. relating to technology that blurs the line between the physical world and digital solutions

12. existing for just one reason _____

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by Eamonn Fitzgerald



The First Industrial Revolution began in Britain. And, despite the upcoming Brexit, the country will continue to play an important role within Europe in Industry 4.0, the Fourth Industrial Revolution.

- 1 Britain was the birthplace of the First Industrial Revolution. From 1760 to 1820, the UK went from making things by hand to producing them in factories, with machines powered by steam. This turning point in human history affected most aspects of daily life and Manchester became synonymous with creative capitalism. Britain was also a leader of the Second and Third Industrial Revolutions, with its cars, consumerism and computers. James Bond drove an Aston Martin, Mary Quant commercialized the miniskirt and Tim Berners-Lee invented the World Wide Web.
- 2 Today, the Fourth Industrial Revolution is happening in real time. This mix of physical, digital and biological innovation is driven by data, robotics and artificial intelligence, and it will create unimaginable technologies and business opportunities.
- 3 What role will Britain play in Industry 4.0? A lot depends on one word: Brexit. Brexit is an abbreviation of “British exit” and it refers to Britain’s decision in a June 2016 referendum to leave the European Union (EU). Following an election in June, 2017, Prime Minister Theresa May’s Conservative Party lost its majority in the House of Commons and the form of Brexit – hard or soft – is now unclear and uncertain.
- 4 Brexit is on the minds of Mark Skilton and Felix Hovsepian. They are the authors of *The 4th Industrial Revolution: Responding to the Impact of Artificial Intelligence on Business*, which will be published in 2018 by Palgrave Macmillan. Hovsepian has a PhD in computer science and works with tech start-ups to improve strategy. Skilton is professor of practice in information systems management at Warwick Business School

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in Coventry, England. Skilton spoke to Business Spotlight about Industry 4.0 and Brexit.

“The legacy of top-class research and universities does not disappear with Brexit,” he says. “It creates short-term concerns in being involved in EU funding but the UK, before EU membership in 1973, had world-class institutions already.”

Teaching was taking place in Oxford as far back as 1096 so the British foundations in the academic and research traditions were built a long time ago, says Skilton. Because of this, he thinks that the development of the intelligent systems of what he calls the “Fourth Industrial Era” may happen faster in the UK, as Brexit will force it to change and compete more vigorously. “This may be optimistic but if you were betting on British history, all is likely to go well,” he says.

For Skilton, the past is an indicator of the future. His confidence that Britain will be a key Industry 4.0 player is also based on the role it played in the evolution of computing during the Second World War, starting with the work of Alan Turing and his code-breaking colleagues at Bletchley Park and followed by the development of the so-called Manchester computers.

“If we look at the work of Google DeepMind and the Alan Turing Institute, we are already leading the fields in artificial intelligence and next-generation immersive industrial systems,” says Skilton.

All of this, and Brexit, will be discussed from 28 February to 1 March, 2018 at the Industry 4.0 Summit, “Europe’s only event dedicated to the future of manufacturing”. Where is it taking place? Manchester, which organizers describe as “the world’s first industrial city, with the first factories and the first industrial estate.”

And, thanks to creative capitalism, Manchester also has two teams playing Champions League football this season: Manchester City and Manchester United.

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3 Understanding the article

Answer the questions with information from the article.

1. What was the First Industrial Revolution?

2. Where did it start?

3. What is the Fourth Industrial Revolution?

4. What political events happened in Britain in June 2016 and June 2017?

5. Is Mark Skilton positive or negative about the role of Britain in a post-Brexit Europe?

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4 Investing in Britain 4.0

Read about three UK 4.0 start-up companies.

You have £10,000 of your own money to invest in one of them. Decide which one you will invest in. Give reasons for your decision.

HEALTH

Dr Ali Parsa, founder of the UK start-up Babylon Health, believes that artificial intelligence (AI), together with advances in medicine, mean that the dream of global good health is nearer than we think. Babylon predicts that its algorithms will be able to diagnose personal health problems better than doctors. The *Financial Times* reported that the Sawiris, an Egyptian billionaire business family, are backing the company. Parsa says their investment is a “great vote of confidence” in Britain as a global leader in developing technology that can be used worldwide. Demis Hassabis and Mustafa Suleyman, founders of DeepMind, the AI group bought by Google for more than \$500 million, are also advising Babylon Health. www.babylonhealth.com

WEALTH

How much of London’s banking business will move to the eurozone because of Brexit? No one knows. But users of the London-based mobile banking app Pockit can send money to all eurozone countries. The app aims to bring banking services to people who might have difficulties opening a traditional bank account. Users can receive their salaries directly into their mobile account and the company plans to offer a remittance service for immigrants as an affordable alternative to more expensive money transfer services, such as Western Union. Most of Pockit’s services are free but it charges a flat fee of £0.99 for extra services. www.pockit.com

FOOD

London food platform Farmdrop uses an app to connect producers and consumers and to ‘cut out the middleman’ in order to pay farmers 75 per cent of a product’s final price. Earlier in 2017, Farmdrop received £7 million (about €8 million) in an investment round led by the venture capital firm Atomico. “There is huge uncertainty in the farming industry after Brexit,” Ben Pugh, founder of Farmdrop, told Tech City News, “and our expansion will give many smaller British producers the option of a more profitable route to market.” Niklas Zennström, head of Atomico and co-founder of Skype, said: “Atomico likes to invest in companies looking to tackle some of the bigger sustainability challenges our planet is facing.” www.farmdrop.com

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5 Writing a proposal

- a. Your boss wants to invest in one of the three companies, too. He has made £100,000 of the company's money available for a 'good' investment. Will you suggest that the company invests in the same start-up as you did? Do you and your boss have the same or different reasons for investing?
- b. Write a proposal for your boss. Start with a very brief overview of the three start-ups. Outline three reasons why one of the start-ups offers the best investment opportunity for your company. End with a clear recommendation.

6 Web research

- a. What are the differences between a 'hard Brexit' and a 'soft Brexit' (para 3)? Research the terms to find out.
- b. Choose one of the people from task 1 and find out more about them.