



# **ARTIFICIAL INTELLIGENCE (AI):**

Opportunity and Challenge for  
the Church: Facilitator's Notes

**Session 3 – Robotics: When computers do things we  
normally expect a person to do**

# Session 3 – Robotics: When computers do things we normally expect a person to do

Background Reading: [Artificial Intelligence Report \(churchofscotland.org.uk\)](https://www.churchofscotland.org.uk) Introduction (Page 4 - 7)

## Discussion:

This process is simply to stimulate discussion about the opportunities and challenges that artificial intelligence brings to all our lives. It's not directed to a conclusion. Instead, its objective is to help us ask questions about something that shapes all of our lives and our thinking.

### Read the following paragraph:

AI is being helpfully deployed in many instances to make the world healthier and more sustainable, but when machine learning algorithms attempt tasks that have up to now been considered the preserve of human beings, it raises many questions. What is special about being human and what is different about "machine intelligence" compared to "human intelligence"? Will machines outsmart humans one day? Some people foresee a future when super-intelligent machines, with cognitive abilities outstripping those of the human brain, become an existential threat to the human race.

### Play the video: Session 3 - Human or machine?

#### Read the Bible passage

#### Matthew 22:34-40

When the Pharisees heard that Jesus had silenced the Sadducees, they gathered together, and one of them, a lawyer, asked him a question to test him. 'Teacher, which commandment in the law is the greatest?' He said to him, "'You shall love the Lord your God with all your heart, and with all your soul, and with all your mind.'" This is the greatest and first commandment. And a second is like it: "You shall love your neighbour as yourself." On these two commandments hang all the law and the prophets.'

### Read the following paragraphs:

Scientists are testing an artificial-intelligence system thought to be capable of diagnosing dementia after a single brain scan; currently, it can take several scans and tests to diagnose dementia. The researchers involved say earlier diagnoses with their system could greatly improve patient outcomes.

Edinburgh University and others worldwide, are investigating the use of AI as a targeted approach to long-term management of endometriosis.

### You can read more about these topics in the following articles:

*Artificial Intelligence may diagnose dementia in a day*, by Pallab Ghosh, Science correspondent, Published 10 August 2021, BBC News website

*Wearable technology could improve future health treatments*, RSE blog publication on 06/12/21, authors: Professor Philippa Saunders FRSE and Professor Andrew Horne FRSE, Royal Society of Edinburgh(RSE) website

## Begin by asking each participant, individually or in small groups, to answer the following question:

1. How aware are you that AI is used in the diagnosis of illness, processing test results e.g. COVID-19 tests, development of new drugs and reading medical images?

### Read the following paragraphs:

Evidence suggests robotic surgery can be less invasive and improve recovery time for patients.

That could be good news with ever growing demand on health services.

Depression and anxiety are major public health issues worldwide and low-cost, easily accessible forms of treatment are urgently required. Internet-based Cognitive Behaviour Therapy, even without the direct involvement of a human therapist, has an important place in treatment.

AI technology has the potential to provide effective, affordable, accessible treatment for sufferers of serious depression and anxiety, across society from low-income countries with poor health infrastructures to places with well-funded health care systems.

COVID-19 has arguably accelerated the phenomenon of computerised psychological therapies, in which there has been a growing interest in recent years. E.g. Therapist and patient using video technology to communicate e.g. Zoom, or a Chatbot therapist providing Cognitive Behavioural Therapy (CBT). Wysa ([www.wysa.io](http://www.wysa.io)) is “an AI-based emotionally intelligent mobile chatbot app aimed at building mental resilience and promoting mental well-being using a text-based conversational interface.”

**You can read more about robotic surgery in the following article:**

*The NHS robots performing major surgery*, by Lisa Summers, Scotland Health Correspondent. Published 12 December 2019, BBC News website

**Ask the following question:**

2. a) Would you be happy knowing that your operation was being performed by a robot?
- b) Do you think that AI has a place in mental health treatments? E.g. a chatbot therapist providing Cognitive Behavioural Therapy (CBT).

**Read the following paragraph:**

Fully autonomous vehicles are not yet permitted in the UK, but many cars already possess some level of autonomous driving. The systems being developed are based on AI and machine learning algorithms. There have been recent changes in the regulations for driverless cars.

**The following articles give more information on this:**

*Self-driving' cars to be allowed on UK roads this year*, by Cristina Criddle, Technology reporter. Published 28 April 2021, BBC News website

*Self-driving vehicles to be trialled in Cambridge*. Published 27 May 2021, BBC News website

**Ask the following question:**

3. Who do you think is responsible when a car, controlled by driver assistance, is involved in an accident? E.g. car owner/car driver/manufacturer/designer of the software?

**Read the following paragraphs:**

Fully autonomous weapons which can select and engage targets, completely without human intervention, do not yet exist, but semi-autonomous weapons, operated by computers running AI algorithms with little human oversight, have been deployed in some countries. A particular concern is the speed at which decisions are made, particularly when the data upon which those decisions are formulated is not complete, as is usually the case in conflict situations. Having a human component, while it may remove the advantage of speed in decision making, may help to avoid mistakes that would have a costly toll.

Campaigners against their use, including many faith groups, question the morality of these weapons, claiming they break international humanitarian laws relating to respect for human life.

**The following article explores the moral questions around semi-autonomous weapons:**

*Autonomous Weapons Systems Raise Moral Questions*, by Monty Self. Published 17 August 2021, Good Faith Media website

**Ask the following questions:**

4. Semi-autonomous weapons, operated by computers running AI algorithms but with human oversight, are part of modern warfare. Fully autonomous weapons can be designed to identify and destroy a target without direct human oversight. Should we question the morality of these weapons?
5. As Christians how do we respond to all of the issues discussed in this session?

## **Prayer**

God of opportunity,  
opening the doors of creativity  
and inviting us to innovate and explore,  
we give thanks for those clever minds  
that build systems which can learn  
and for the advances that has brought  
in industry, in medicine, in transportation.  
And we also raise to you the questions  
discussed this session:  
difficult questions about authority and responsibility,  
and ask that you guide law-makers  
and regulation-drafters,  
to choose carefully what is allowable and what is not,  
who is responsible and who is not.  
May we continue to think about the issues raised,  
and give us clarity to see around us  
how AI and technology is being used.  
We pray for those whose jobs are being displaced  
by advancing robotics and autonomous systems,  
and for societies to prepare for these shifts  
amongst the working population.  
Amen.