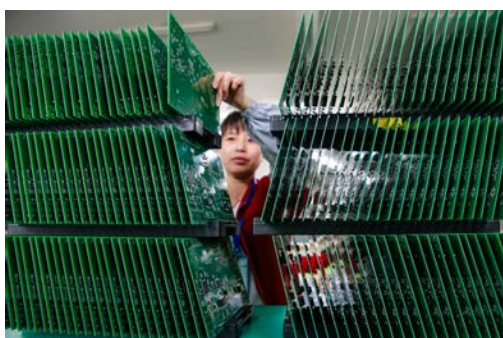


Student worksheet – Sustainable development

Connecting the world

Read the text below and watch the interview hidden behind the QR code below. Then discuss the assignment with the nearest classmate who is working with the same theme as you. You will find the discussion questions on the next page.



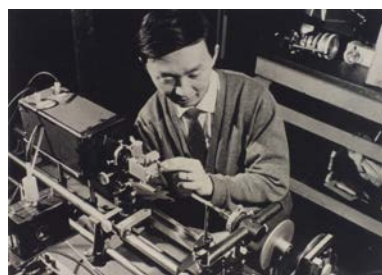
Electronics play an increasingly important role in our world. With computers, tablets and mobile phones, many people spend a large part of their daily life in the digital world. Digital technology influences how we make contacts, how knowledge and opinions spread and how our societies are governed. Many components in computers, phones and telecommunications systems are the fruit of Nobel Prize-awarded works in physics.

How will digital technology develop and shape our future society? What effect will it have on art and literature? What significance will its increasing capability have in areas such as artificial intelligence? What burden will electronics place on natural resources such as minerals and energy?

FIBRE-OPTICS

The digital world demands faster transmission of data. For a long time data was transmitted as electrical signals in wires made of metal, especially copper. Nowadays data is often transferred with light pulses in wires made of glass: optical fibers.

Optical fibers permit high-capacity telecommunications for telephones, television and the Internet. By using extremely pure glass in optical fibers, **Charles Kao** could transmit signals with small losses over great distances in the 1960s. Along with laser technology, this has made fiber optic communications possible. For rapid transfer of large amounts of data, optical fibers are unmatched, and the technology continues to be refined.



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Watch the interview with a researcher by scanning the QR code with your mobile phone. The interview can also be found at this internet link:

<https://www.youtube.com/watch?v=xetM8hLgWB8&feature=youtu.be>

Assignment

Use the text you read, the interview you watched and the picture below of the global goals.

You have spoken earlier about the global Sustainable Development Goals. Now you should think about whether the contributions of Nobel Laureate Charles Kao have helped the world move closer to achieving the global goals.

1. Which of the global goals have been affected the most by the work of the Laureate? (Find at least two goals.)

2. In what way has his work had a positive impact on efforts to achieve these goals?

3. Has the work of the Laureate had any negative impact on efforts to achieve one of the global goals?

