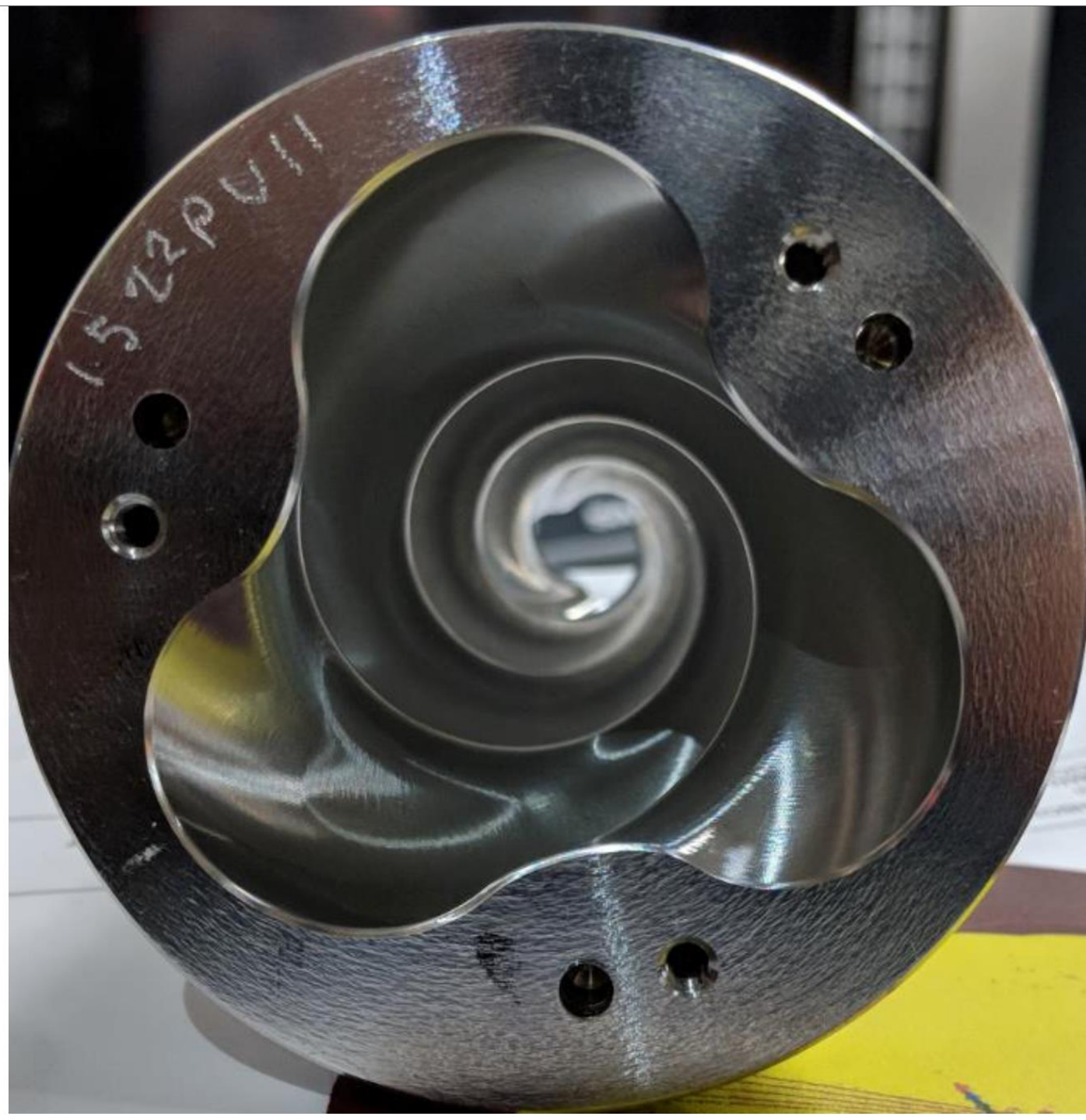


*How a software  
guy disrupted  
the hardware  
world*



# Introduction

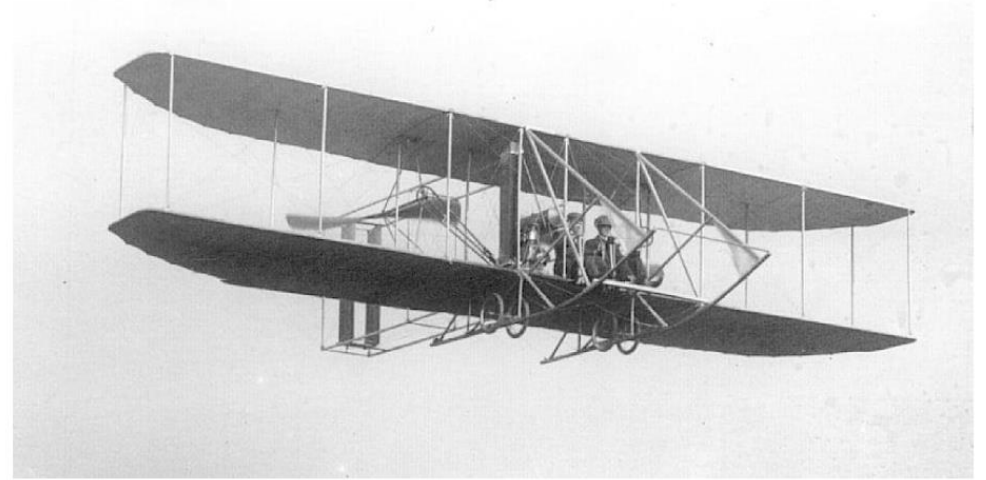
- Inventor of the Year 2017
- Best Management Team of the Year in Scotland, 2017
- One of top-100 figures in UK Manufacturing
- Innovator of the Year 2018
- Made In Scotland Award 2018
- Background is software/telecom
  - IBM: Oracle/SQL
  - Spirit: embedded software
  - MobileTelesystems: director of new products



*They are only 99.9% right*

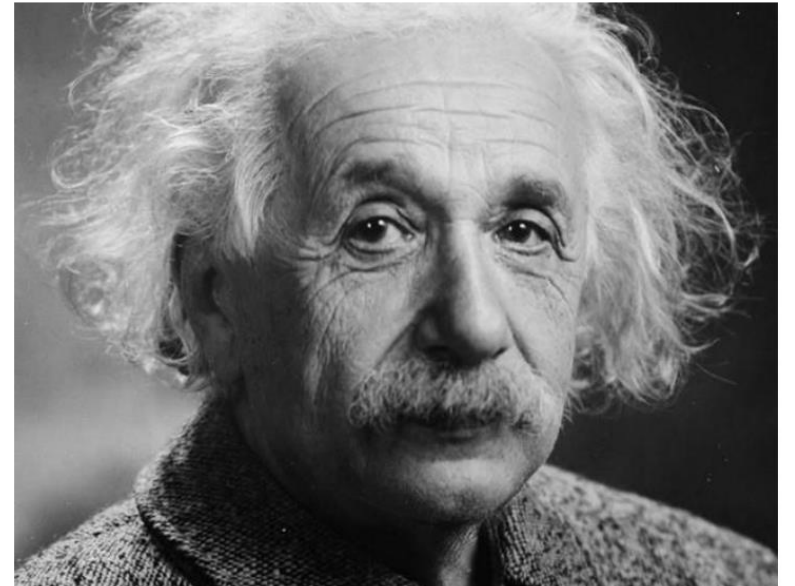
“Heavier-than-air flying machines are impossible”

Lord Kelvin

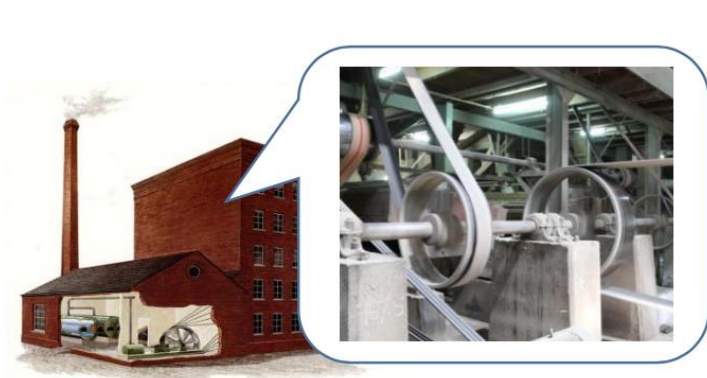


“There is not the slightest indication that [nuclear energy] will ever be obtainable”

Albert Einstein



# Technologies follow the path of decentralisation



19 century: **central power**



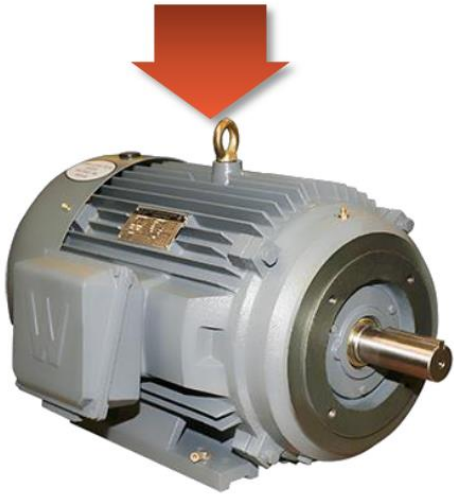
19 century: **central ice**



1960s: **central IT**



Past: **central air**



Now: **distributed power**



Now: **distributed ice**



Now: **distributed IT**

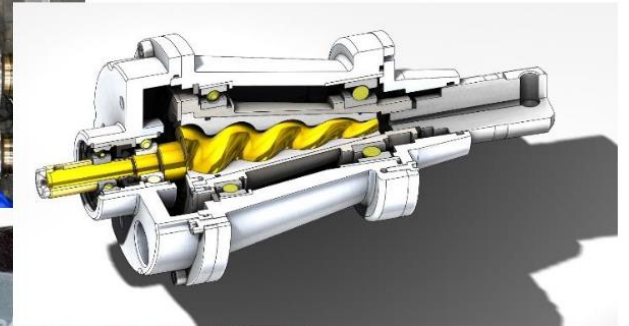
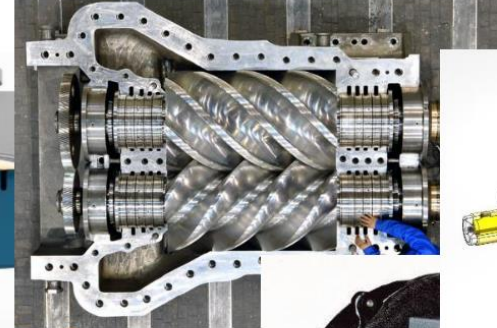
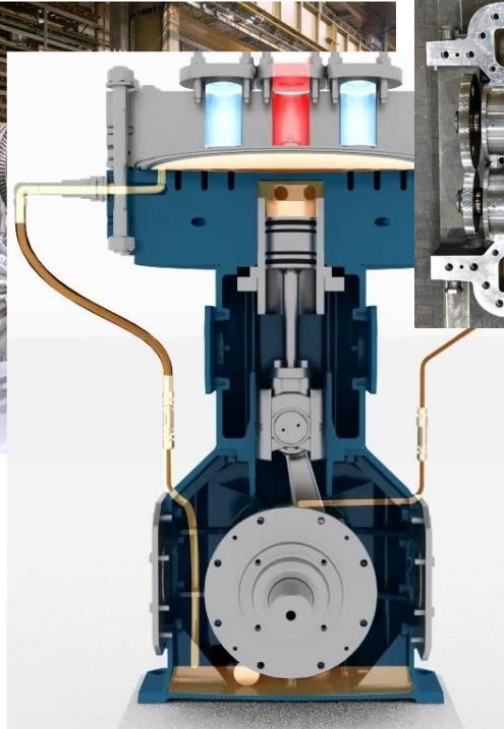
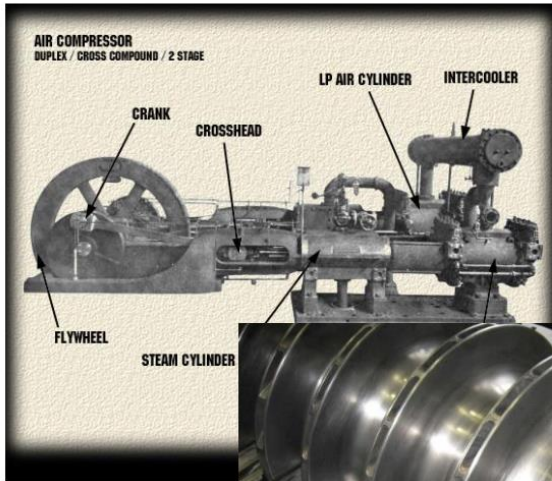


Future: **distributed air**

# Evolution and disruption

40 years gap

Reciprocating 1860 Centrifugal 1899 Turbo-compressor 1920-s Diaphragm 1923 Twin-screw 1934 Scroll 1973 Conical Screw 2013



# *The disruption*





55%

more efficient  
than 1kW scroll



2 times

more flow  
than "quiet" piston  
at max 50% duty



3.7 times

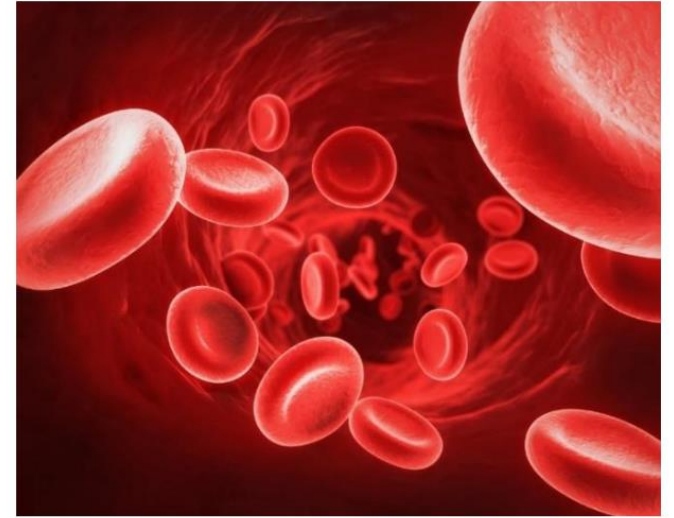
lower noise  
than industrial piston



14  
strong team



3 CNC  
machines



5  $\mu\text{m}$   
accuracy

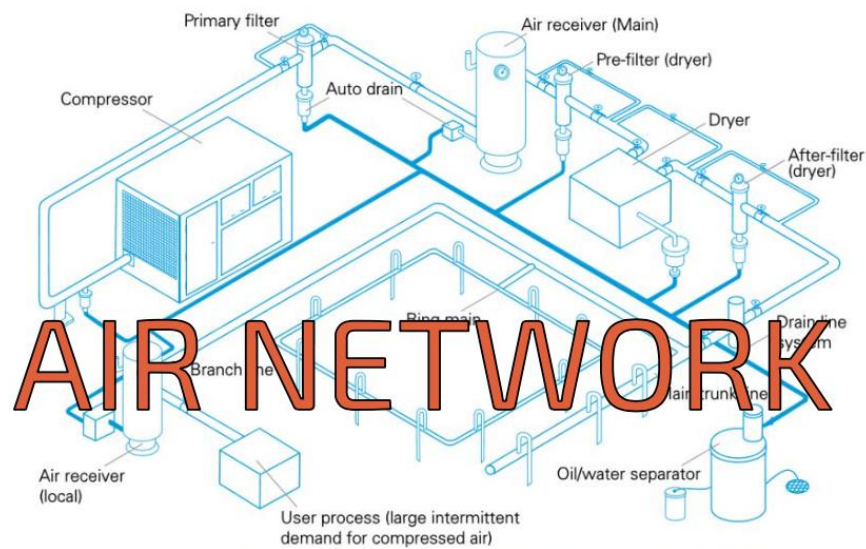


***Peter Diamandis:***  
*Want to be a billionaire?*

**Solve a billion person problem**

# My vision is to reduce energy waste

Figure 3 A typical air compressor system



AIR AT THE POINT OF USE



LEAKAGE 0%

# *My vision is to improve lives of millions*



Incumbent  
compressor



Hearing loss is  
the **most common**  
work-related injury.



Vert's  
compressor

Source:   
© Starkey



