

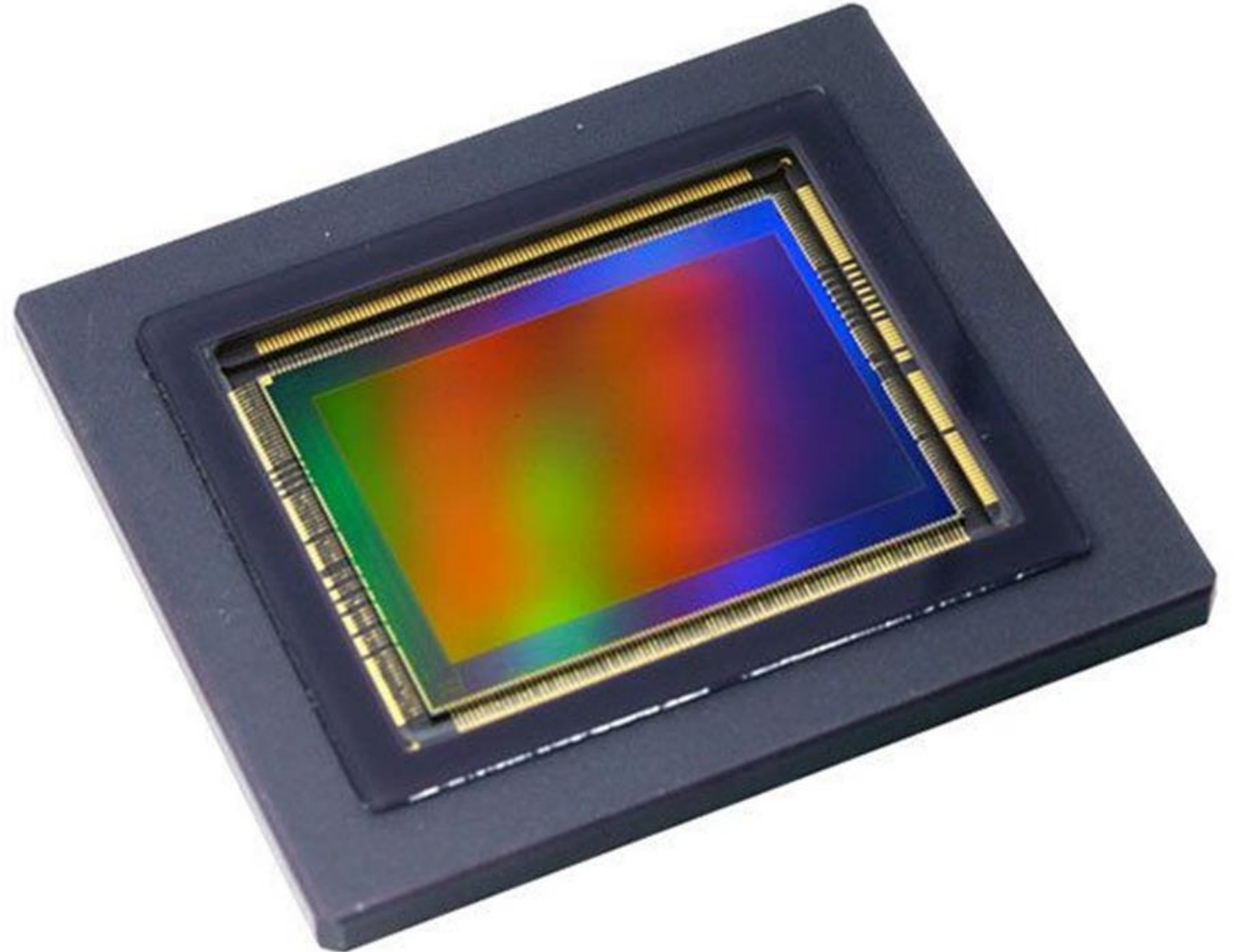
# Where on Earth did the Digital Camera Sensor Come From?

Well actually, the idea came from space

The History of the Charge Coupled Device

# Lets remind ourselves of what a camera sensor is

- 12 to 16 million pixels stuck on a plastic card
- The smallest pixels are so small they are not visible to the naked eye
- Yet each pixel contains a lens, a colour filter three transistors, one diode and an electric storage device!
- They are made exactly like wafer biscuits

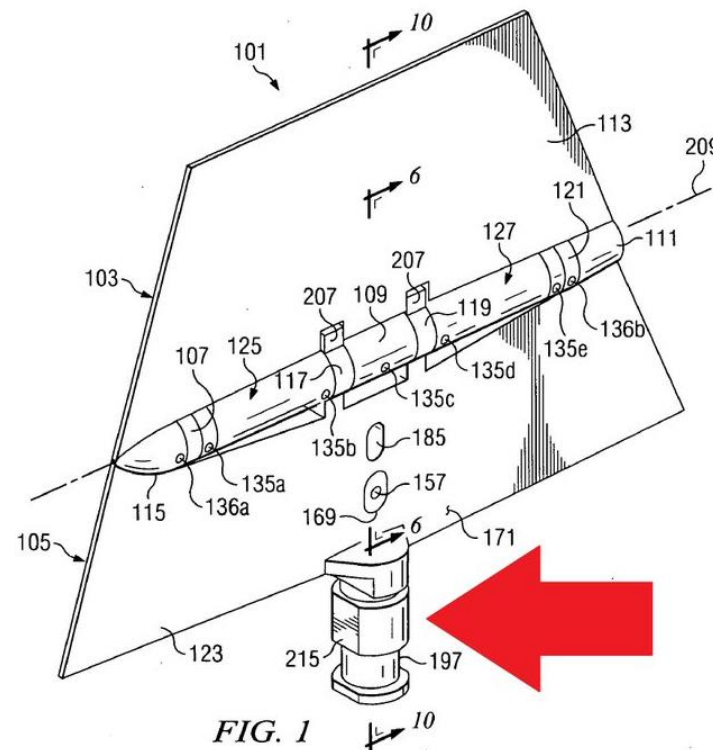


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# Defence



- After the 1962 Cuba Missile crisis US defence policy moved away from mass atomic destruction
- Preventing collateral damage in small wars became the new focus
- The US defence department became more than interested in the precision guidance of missiles



American defence contractor Fairchild were very active in this area supplied with funds by the American defence department.

They had these high flying missiles.





But they really wanted to  
make these →

Ground and sea hugging  
cruise missiles

One solution might be a  
digital camera linked to a  
guidance computer



- Nowadays, most missiles like this one have optical sensors often alongside other systems allowing alternative guidance in case of countermeasures
- But back then, the computers needed were too large and heavy so Fairchild parked that idea and as soon as the technology came off the secret list....

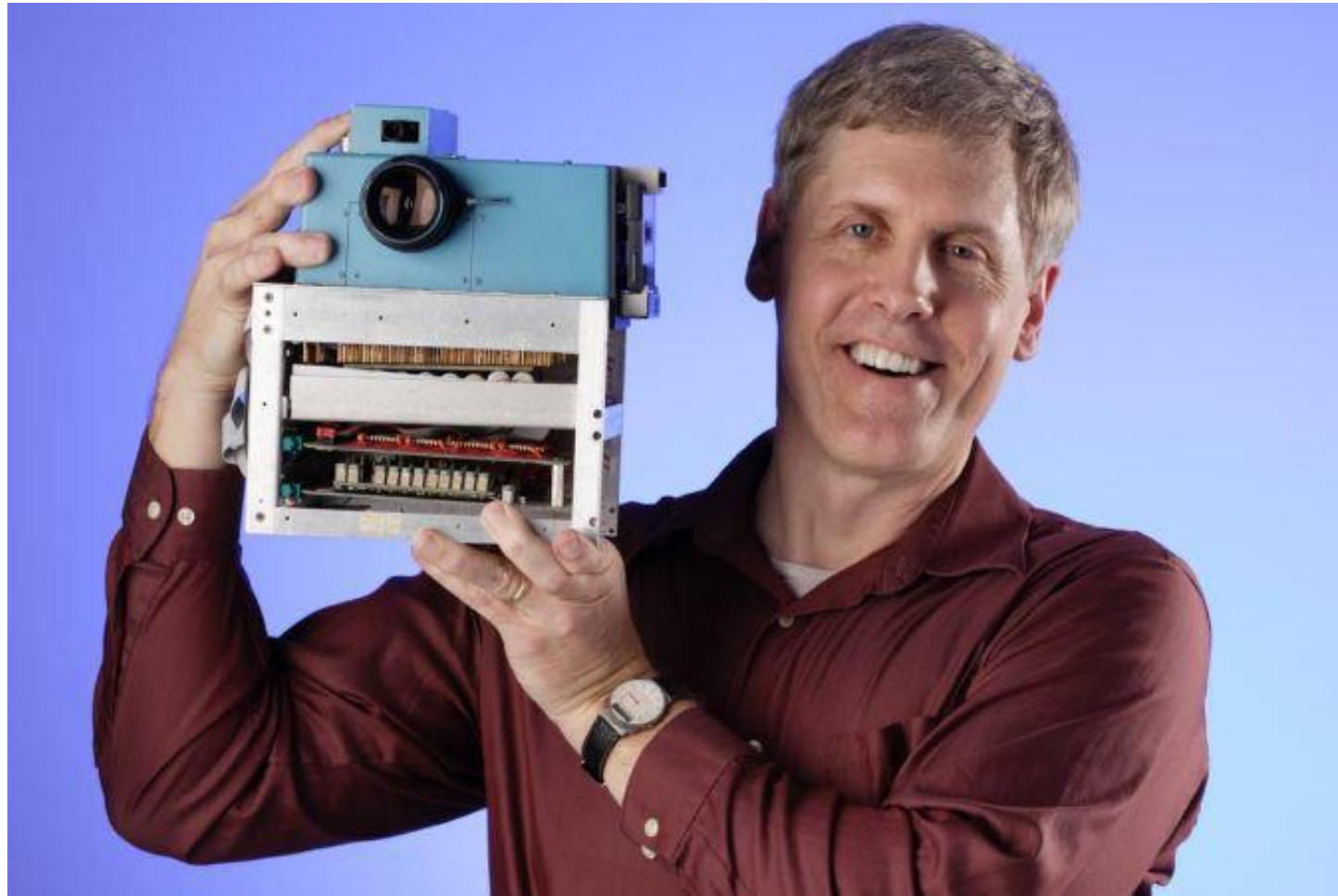




Fairchild gave Kodak a ring

They sold the technology to Kodak who made the first digital camera available for the public to buy

Black and white only



- Fairchild had a better idea. Their vision was to use their sensor in factory production lines.
- Their systems led to the fully automated factories of today and the redundancy of millions of factory workers worldwide
- But Fairchild were also busy on another top secret money spinner...Spy Satellites





- Meanwhile, Kodak struggled to sell their new digital cameras because home computers are needed to support them and these were not commonplace until the 1990s
- Kodak slid into financial difficulty
- They then made a disastrous decision to get into bed with Nikon on joint camera ventures



- But the Japanese just robbed Kodak of everything they knew
- By 1991 Nikon and others were entering the amateur photography market with digital in colour.





The rest...  
is history

