



# EU BUDGET FOR THE FUTURE

*Research and Innovation*

#EUBudget #HorizonEU #FutureofEurope



7 June 2018

## EU RESEARCH AND INNOVATION SUCCESS STORIES

Thanks to EU funding, we got incredible results on:



### CANCER TREATMENT

**What amount of chemotherapy is needed?**

In developed countries, a woman's chance of getting breast cancer is around one-in-eight. Chemotherapy is effective but can have serious side effects and up to one-in-five early breast cancer patients could be receiving too much chemotherapy. EU-funded research has shown that combining traditional methods for assessing a tumour's aggressiveness with a new laboratory test helps set the amount of chemotherapy needed.

### SOLAR JET FUEL

**Researchers have produced 'solar' jet fuel from water and carbon dioxide**

EU-funded researchers have successfully demonstrated the entire production chain for renewable kerosene using solar energy. Concentrated sunlight is used to trigger a reaction between CO<sub>2</sub> extracted from air with water to produce avionics grade jet fuel. The technology has the potential to provide secure, sustainable and scalable supplies of jet fuel as well as diesel and gasoline, and even plastics.



### ROBOT CARE

**EU-funded robots are helping the young and the old**

Cancer can be particularly distressing for young children and so EU-funded scientists have created a robot nicknamed 'Little Casper'. Currently being tested in a hospital in Lisbon, Casper wanders around boosting the morale of young cancer patients. There is robot help for the elderly too. Another EU-funded team is developing reliable people-friendly robot assistants to help the elderly deal with everyday domestic tasks.

### NEVER ENDING BATTERY

**EU funding made possible the development of a super battery**

EU funding has helped an Estonian company produce an energy storage device called ultracapacitor, which is a hundred times more powerful than an ordinary battery, and can withstand one million recharge cycles. Skeleton's ultracapacitors are based on graphene – a two dimensional form of carbon with remarkable properties. The company has raised €13 million to build a manufacturing facility in Germany capable of producing millions of these new ultracapacitors a year.





## DREAM HOUSE

### A new house printed just for you?

3D printing is set to revolutionise the construction industry by allowing the manufacture of adapted building products. An EU-funded project is working towards producing a commercially viable onsite machine combining design parameters with production. It would make the construction industry more cost-effective and resource efficient.

## GREENER WATER TRANSPORT

### A 100% electric ferry is on the horizon

Europe has around 900 ferries for cargo, cars and passengers, which account for 35% of the world fleet. For more energy-efficient vessels that emit less carbon dioxide in the future, an EU-funded project will demonstrate a fully electric ferry. It will have a 40-km range, a speed of 25 km/H, and a capacity of some 30 cars and 200 people. The prototype ferry will connect the island of Aeroe (DK) to the mainland.



## EXPLORING THE UNIVERSE

### Sharper focus on gravitational waves

The detection of gravitational waves in 2015 provided ground-breaking information about the Universe. Building on this discovery, EU-funded scientists have detected waves at three observatories, a first in astrophysics, making it possible to locate the signals' origin and better apply the data they provide, opening a window into the Universe.

## CROPS FOR COSMETICS

### EU-industry funded project reclaims barren land to produce oil

Hillsides in the Mediterranean area are often so dry and stony that they can't be used to grow food. However, an industry-led EU project is showing how oil extracted from seeds from a hardy non-food crop can be refined to produce products such as cosmetics and bio-plastics. Turning barren ground into productive farmland is commercially viable and will help regenerate local communities and attract investment.



## WATER OF LIFE: KEEPING EUROPE'S LAKES AND RIVERS HEALTHY THROUGH SCIENCE

### EU-funded research project mapped 30 years of changes in the world's water

Lakes and rivers are vital sources of clean water for humans, wildlife and the economy, but they actually contain less than one in ten thousand litres of water in the world. This makes it incredibly important to understand them better, and to clean polluted waters and keep them clean. Researchers working in the European Commission have created a dynamic map of every strip of water on the planet based on over three million satellite images (1 823 Terabytes of data) collected between 1984 and 2015, using 10 000 computers running in parallel. Its uses are widespread, from water-management and understanding climate change to risk, resilience and recovery linked to water movement and infrastructural planning.