Medical innovation has always been important for human development. Now, with breakthroughs in fields such as AI and 3D printing, medical researchers and entrepreneurs are making major breakthroughs that allow for easy and more accurate diagnoses, improved treatments, drug discovery, customized prosthetics, and more. And with the support of top universities and programmes like Horizon 2020, European startups are leading the way.

Here are 10 startups developing and implementing cutting-edge technologies to diagnose and treat medical problems from cancer to heart disease, nutritional deficiencies, orthopedics, and rare diseases to improve the quality of life for patients around the globe.

**FindMeCure** – We’ve all read and heard about new discoveries and innovative treatments in universities. Those of us suffering or with loved ones suffering from rare or difficult to treat medical conditions ask ourselves “Where are they?” Sofia-based FindMeCure bills itself “The Google of Clinical Trials”. Its online platform connects struggling with medical conditions to access treatments in development through clinical trials. Just enter your condition, age, and location into its search engine, and it will provide you with a list of clinical trials near you. Founded in 2015, FindMeCure raised €420k in seed funding in 2015.

Paris-based **DNA Script** manufactures synthetic DNA for research purposes, using a proprietary template-free enzymatic technology. This technology has the potential to greatly
accelerate advances in drug discovery, regenerative medicine, as well as agtech and DNA data storage. The product portfolio based on DNA Script’s enzymatic synthesis platform will enable molecular biology researchers to accelerate their experiments – with the goal of moving from design to results within a day for a broad range of applications. Founded in 2014, the startup has raised a total of €56 million in funding, including a €34.4 million Series B round in May.

Munich-based Mecuris is digitizing prosthetics and orthotics (artificial supports for the limbs or spine) using 3D printing. The company moves orthopaedic care into the digital world by bringing together 3D technologies into one intuitive solution platform. Physicians and orthopaedic technicians are empowered to 3D-print patient-specific prostheses and orthoses without prior 3D design or 3D printing experience. The company’s platform uses patient images (CT, MRI, or 3D scans) to semi-automatically individualize 3D designs of patient aids and make them ready-to-print at a local 3D printing hub, enabling a 100% customized fit, and cutting production times by 75% for the medical practitioners and patients. Founded in 2016, Mecuris raised €3.6 million in Series A funding in January 2019.

Paris-based medtech startup Therapixel applies AI to radiology, helping radiologists to better diagnose breast cancer. Breast imaging is one of the most needed radiology specialties, yet breast cancer diagnosis is very challenging, with only 0.5% of mammograms containing cancerous tissue, and 10% of tests yielding false positives. Therapixel has demonstrated its ability to develop leading AI-based algorithms for breast cancer screening – it won the DREAM Digital Mammography Challenge in 2017, the largest AI competition ever organized, with 1,200 participants and a $1.2 million prize. Founded in 2013, the startup went on to raise €5 million Series A in March 2019.

Wrocław-based startup Genomtec has developed a mobile laboratory device for disease diagnosis. In only 15 minutes, it can identify dangerous pathogens including viruses, bacteria and fungi by amplifying and detecting specific DNA and RNA fragments. Diagnoses using Genomtec ID can be performed both in humans and animals, and can be used by hospitals, doctors, laboratories, as well as in the agriculture and food industries and environmental contamination control. Genomtec received a grant of €2 million in January 2019.

Based in Ostrava, Czech Republic, Invent Medical is a startup that focuses on inventing, developing and designing a new generation of custom-made orthotics and prosthetics, so patients can experience better treatment outcomes. The startup’s philosophy is that everyone is unique, and everyone’s needs and style preferences are different, and so they
allow interactive configurations for their products, and use 3D printing to produce them. Through Invent Medical, patients can become the co-designers of the products, dramatically increasing the acceptance of medical devices and the satisfaction of the users. Founded in 2015, Invent Medical received a €50k grant from Horizon 2020 in June 2018.

Liege-based **FibriCheck** has developed a smartphone app to measure your heart rhythm, and help determine conditions such as cardiac arrhythmias or risk of stroke. The FibriCheck app is the first CE-certified Class IIa diagnostic solution to detect heart rhythm disorders such as atrial fibrillation outside the clinical environment. Cardiologists, neurologists, and practitioners are already prescribing the app to their patients, who only need to place their finger on their smartphone for one minute to receive results, which can then be sent to their doctor for analysis. The company is focusing purely on prevention of complications related to the heart, overcoming all limitations of medical hardware, allowing everyone to check the heart rhythm at home or anywhere with just a smartphone. Founded in 2014, FibriCheck has raised €1.5 million.

**ABLE Human Motion** is a medical device spin-off from Universitat Politècnica de Catalunya that is developing ABLE, the first lightweight, easy-to-use, and affordable exoskeleton for people with spinal cord injury and lower-limb paralysis that restores the ability to walk naturally and intuitively. It helps to palliate health issues caused by a sedentary lifestyle while boosting self-confidence and independence. Founded in 2018 and based in Barcelona, ABLE has received a €50k grant from Horizon 2020.

**RTsafe** – As radiation therapy becomes more customizable for each individual patient, the complexities of the supporting treatment planning system and the dose delivery system increase. RTsafe has developed solutions to personalize the quality assurance process in radiation oncology, where the treatment can be first checked in a simulation before being used on the real patient. Using 3D printing, the startup can create exact anatomical replicas of patients’ body parts in order to test the impacts of radiation and minimize the chances of side effects. Founded in 2014 in Athens, the startup won first place at MIT’s Enterprise Forum Greece Startup Competition in 2015 and its **Personalized PseudoPatient** solution was granted FDA approval in 2018.

Cambridge-based **PredictImmune** develops prognostic tests to guide treatment options and improving patient outcomes for immune-related diseases such as inflammatory bowel disease (IBD), Crohn’s disease, and lupus. Based on over ten years of research at the University of