CEA TECH SERVICES FOR THE HEALTHCARE INDUSTRY

Technology for tomorrow’s healthcare challenges:

**CEA Tech technology**

- **Imaging**
  - Data processing and analysis
  - Sensor systems and labs-on-chip
  - Expert systems and advanced decision-assistance software
  - Medical systems
  - Characterization
  - Cobotics

- **Diagnostics**
  - Medical imaging, performance enhancement (faster test results, higher resolution, more accurate positioning, etc.), cost cutting, diagnostics for new diseases

- **Public health and the environment**
  - Air, water, and food quality

- **Sports and wellness**
  - Personal monitoring, smart textiles

- **Rehabilitation**
  - Post-traumatic rehabilitation systems, in-home assistance

- **Personalized medicine**
  - Monitoring services and devices, biological profiles of patient populations, individualized treatment, risk analysis

- **Treatment**
  - Targeted drugs, tumor treatment, production processes, medical systems, assisted surgery

- **E-healthcare**
  - Remote healthcare monitoring, remote assistance, data storage and security, costing the transition to e-healthcare

**CEA Tech can help the following businesses:**

- Pharmaceutical companies
- Medical equipment manufacturers
- Medical systems manufacturers
- Rehabilitation systems manufacturers
- Athletic equipment manufacturers
Here are some of the ways CEA Tech can support your development:

**Imaging systems**
Low-cost or high-performance medical equipment (like scanners); assisted surgery; lensless characterization of biological environments from virus to tissue

**Micro-energy-sources integrated into systems**
Vibration-energy recovery; microbatteries for implanted devices like pacemakers

**Micro-medical-systems for healthcare**
Smart bandages; instrumented textiles; Parkinson’s treatments; vision systems

**Physical and biochemical sensors**
Pacemakers, industrial bioprocess control, physiological testing (blood, urine, sweat, skin), and position, geolocation, and motion sensors

**Sensor systems for environmental monitoring**
VOC measurement; detection of molecules in water; gas measurement; industrial emissions monitoring

**Labs-on-chip**
Fast fluid analysis for testing and diagnostics

**Software**
Biological profiling of patient groups for clinical testing; decision-making assistance for diagnostics and treatment

**Data security**
Data storage and security; data encryption; smart card security

**Robotics & cobotics**
Exoskeletons; assisted surgery

**Vision systems**
In-home patient monitoring and security

**Advanced manufacturing**
Energy optimization; process monitoring; training; manufacturing scenarios

**Treatment simulation and calibration**
Support for in-hospital tumor treatment

**Drug delivery systems and equipment**
Biocompatible encapsulation for cellular therapy; lipid nanoparticles to carry drugs

**Materials and characterization**
Biocompatible encapsulation for implanted systems; structural weight reduction of implants like prostheses