



PERSIST: Patients-centered
SurvivorShip care plan after cancer
treatments based on Big Data and
Artificial Intelligence technologies

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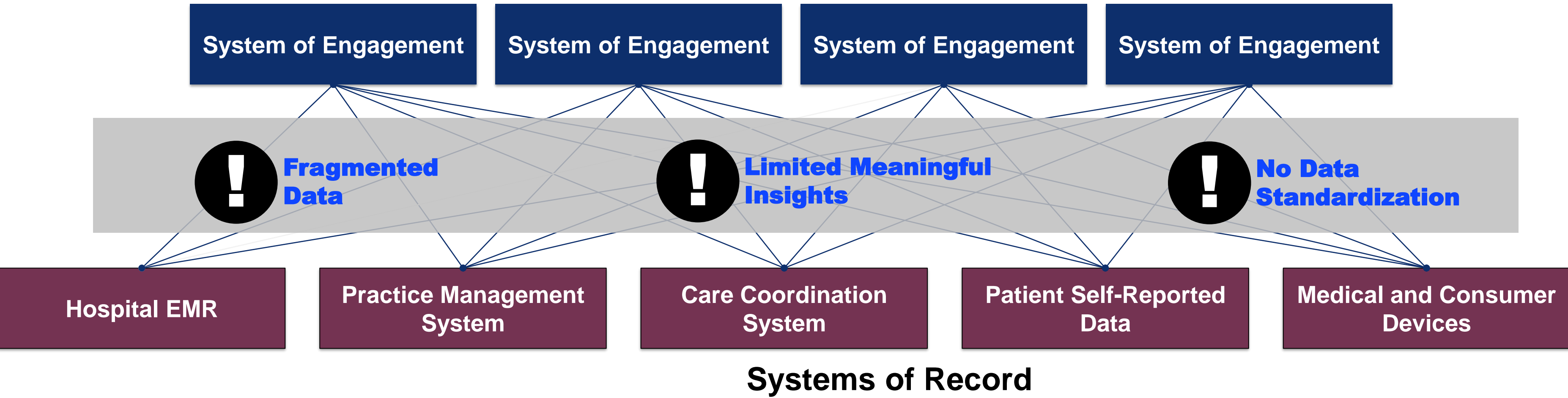
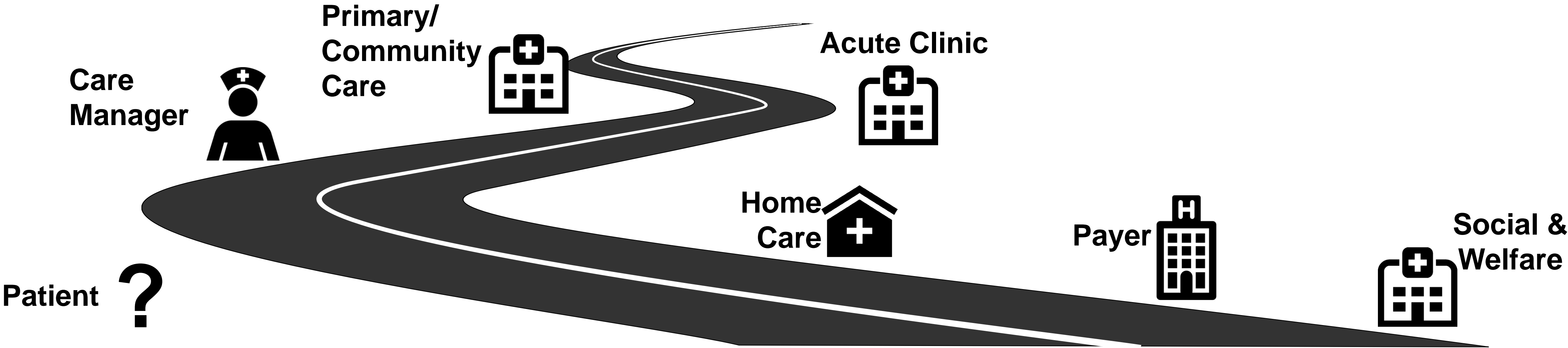




Technical characteristics
of **PERSIST**:

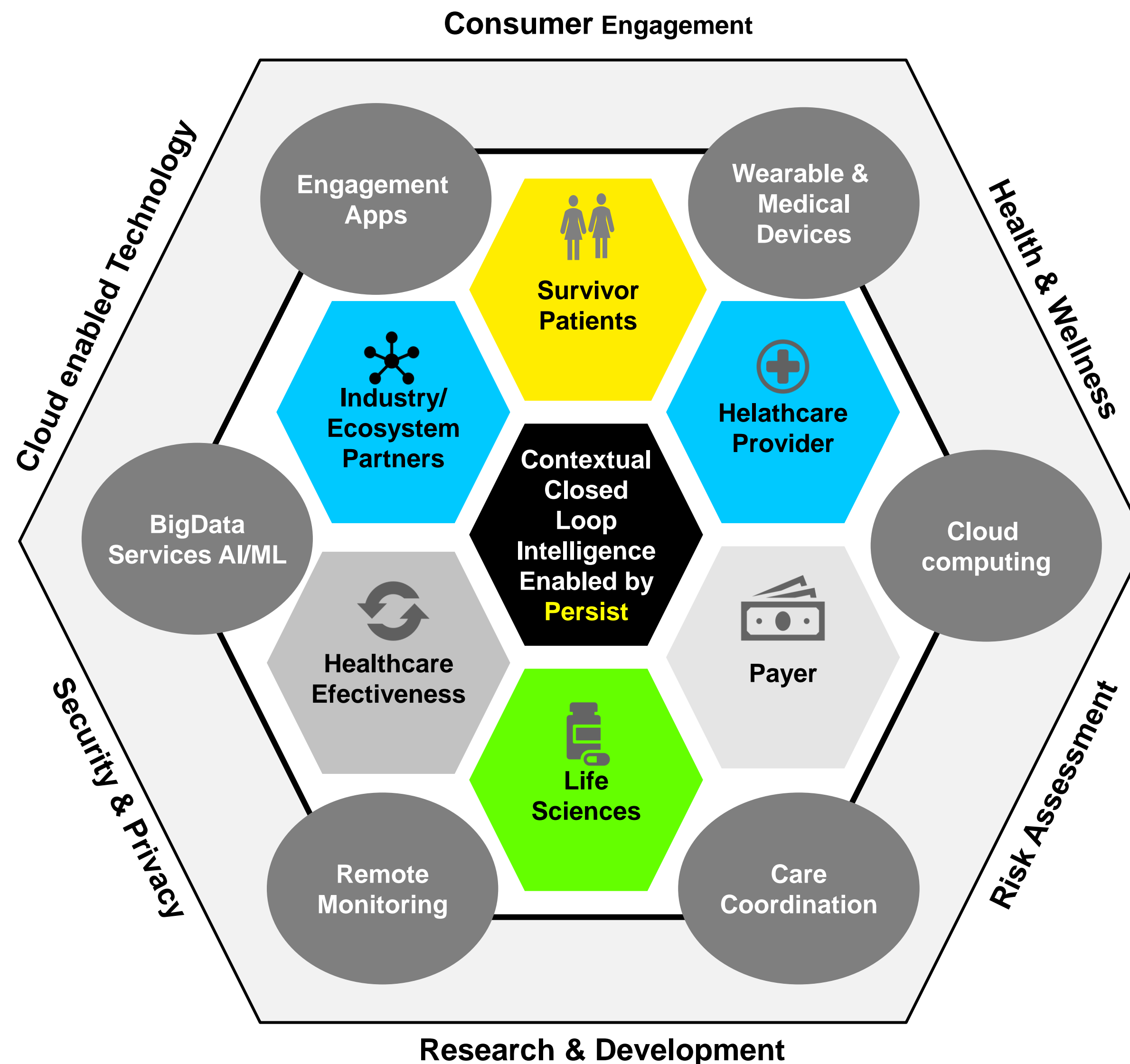
From challenges to innovation

The Problem: Fragmented, Unstandardized Healthcare Data



Persist ecosystem

- Flexible big data platform enabling the flow of complex and fragmented data from disparate applications
- Data collection from new sources of health and wellbeing data
- Data enrichment and anonymization
- Multi-layer security
- OpenData secured access to develop new ML/AI algorithms
- Patient engagement and Clinician apps

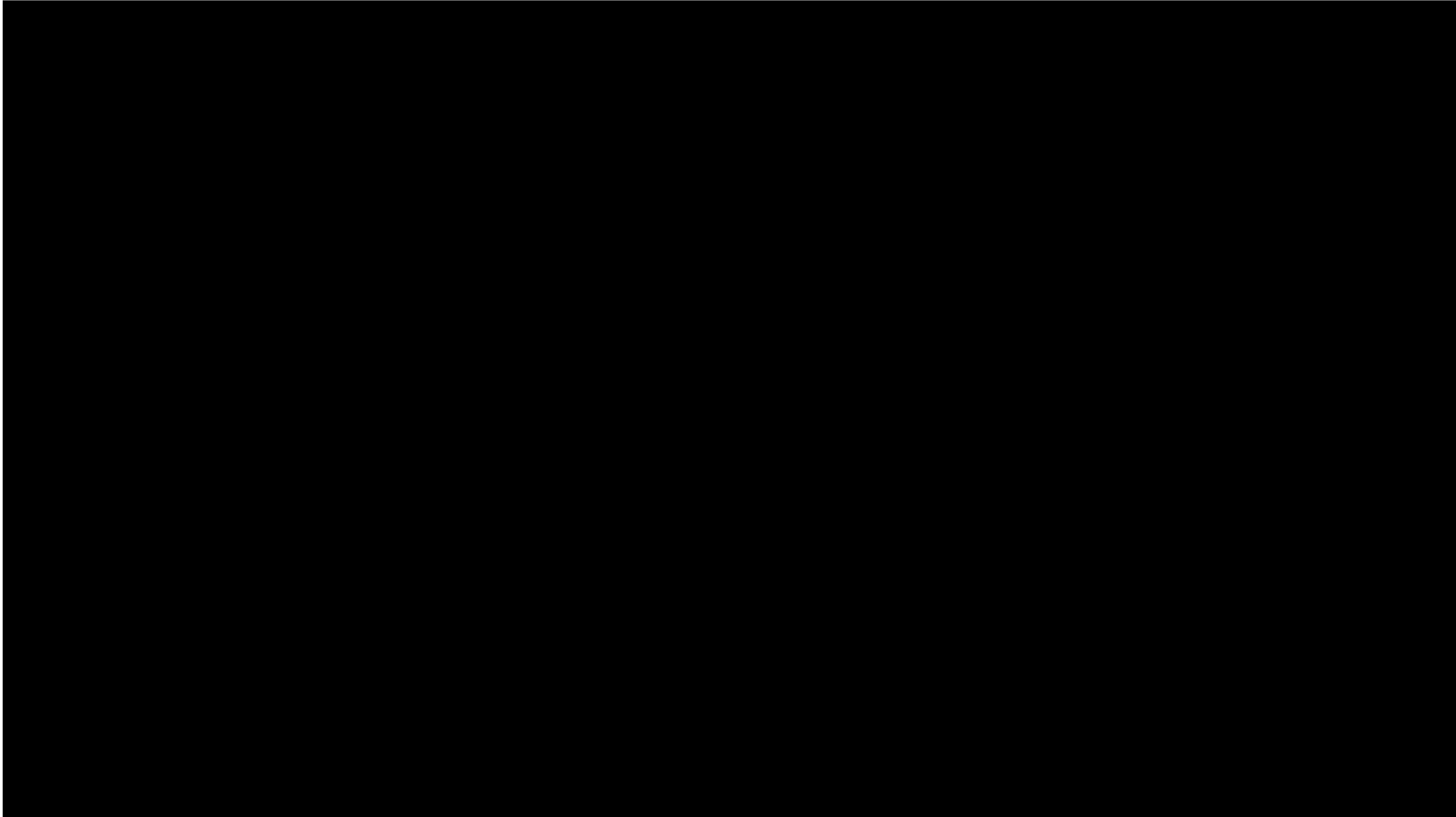


Persist innovative features

- **Patient Engagement mobile application (mHealth)**
- **Multimodal sensing network objective data collection (physical activity, duration, etc.) and patient's perceptions**
- **New software for automated circulating tumour cell (CTC) counting and classification based on image analysis**
- **Patient trajectories prediction models based on historical retrospective data**
- **CDSS inference engine that uses collected data and prediction models to leverage risks**
- **Involve healthcare professionals and experts to overview the impact of lifestyle in large-scale prospective studies**
- **Clinical study to collect large-scale lifestyle and mood data and to validate the outcomes of the project**



PERSIST mHealth Application and Devices



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 875406




PERSIST clinician application

Clinicians will be able to track patients evolution more easily while they also receive support from the PERSIST's Artificial Intelligence

← Patient Detail

Back


 **9471307001**
42 Unspecified


Persist id: ABCD
Cancer details:
Lung carcinoma, stage II, pT1 pN0 M0 R0 G1
Diagnostic date: 21.10.2020


Treatment History
10.09.2020: Chemoterapy
01.09.2020: Chemoterapy
20.08.2020: Radiotherapy


[View Physical Activity](#)


← Alerts

 9471307003 🚨 2020-01-03 24:00
Dangerous ✓ 2021-06-24 11:03
Answered YES to a question about lymphedema.

 9471307003 ⚠️ 2020-01-03 24:00
Warning ✓ 2021-06-24 11:03
Answered YES to a question about lymphedema.

 9471307002 🚨 2020-01-04 24:00
Dangerous
Answered YES to a question about lymphedema.

 9471307003 ℹ️ 2020-01-03 24:00
Informational ✓ 2021-06-24 11:03
Answered YES to a question about lymphedema.

 9471307002 🚨 2020-01-04 24:00
Dangerous
Answered YES to a question about lymphedema.

Blood Test

Date	Hematocrit	Haemoglobin	Urea
13.02.2020 (Today)			
02.02.2020	45%	15	10
30.01.2020	45%	15	10
20.01.2020	45%	15	10

Image Test Reports (for colorectal)

Date	Result
13.02.2020 (Today)	
02.02.2020	good
30.01.2020	good
20.01.2020	good

Information from Wearables

Date	Num steps	Sleep duration	REM sleep duration	Blood pressure	Heart rate
13.02.2020 (Today)					
02.02.2020	10000	8:30	2:30	120/80	80
02.02.2020	10000	8:30	2:30	120/80	80



Persist: summary of main benefits

- **Patient-centered approach**
 - Personalized care, no “one size fits all”
 - Liquid hospital, the care goes where the patient is
 - Trend and lifestyle analysis and visualization
- **Clinicians**
 - Predicted patient trajectories overview
 - Patient-targeted suggestions based on current conditions and historical data
 - Early alert and risk evaluation system
- **Healthcare organizations**
 - Data collection, curation and standardization processes
 - Big data platform foundational configuration → unlocking future data use



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