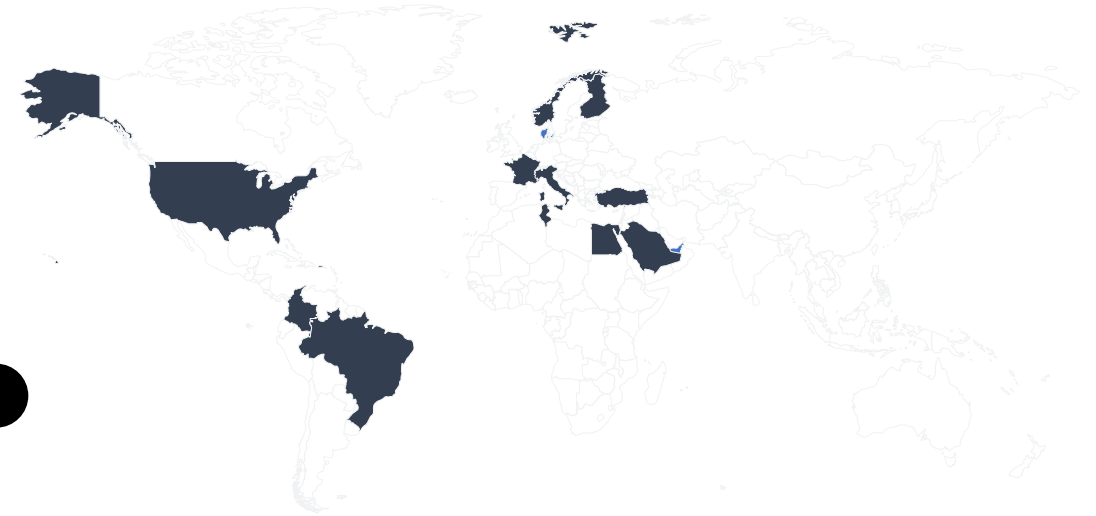


# Artificial Intelligence in Healthcare: Almawave's one-to-many approach



# Almawave at a glance

Leading AI company specialized in accelerating Digital Transformation of private companies and public administrations through the advanced use of **Artificial Intelligence to improve the customer experience and simplify access to information and services.**



- 3 Countries
  - 6 Offices in Italy and 3 abroad
  - 15 Sales country
  - 4 Tech lab
  - 10 International Research Projects
  - >200 professionals
  - + 20,000 Users
  - + 2,500 Broadcast Channels
  - >30M€ R&D investments in last 10 yrs
- Euronext Growth Milan - AIW.MI - IT0005434615

## Review & Awards

Almawave **speech & text recognition** technology applied to **customer experience management** and **advanced analytics** is mentioned in over **60 reports** by leading market analysts and won **prestigious international awards.**



## Collaborations



# Scenario and Patient Journey

1



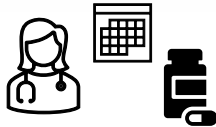
Hospital is the first access point to clinical care and treatment

2



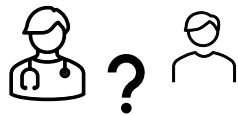
Symptoms or acute events are reasons that patients have to travel

3



Take charge steps are plan treatment, care pathway, and follow up

4



Interactions between patient and health personnel are planned by appointments and controls. It can lead to unknown deviations, deterioration, or inappropriate admissions to hospitals

*A continuous and detailed patient follow has an impact on the clinical pathway and outcomes*

# Scenario and Patient Journey supported by AI



More data creation is an advantage

- Patient more easily monitored and relaxed
- Better clinical pathway adherence and control
- Opportunities of intervention



More data available means:

- Organisations and resources to follow the data
- Competences to analyse and to read the data
- Answers and actions in the short-term

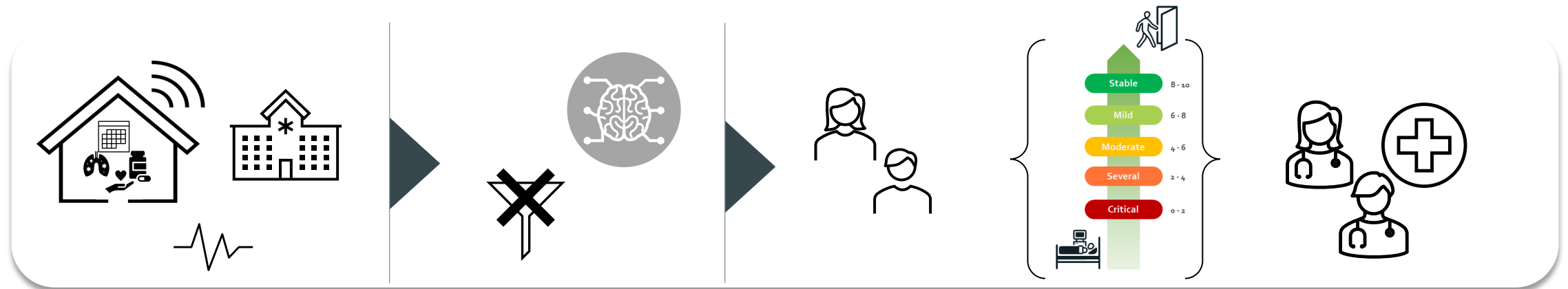
*Artificial Intelligence works better with data and information increases.*

*AI:*

- *Permits extraction and valuing of data all along the pathway (from hospital to home)*
- *Identifies prognostic models and aggregated data from several sources*
- *Adapts to specific areas because it is controllable and can be upgraded*

# AI as support for patients and clinicians: The One-to-Many Approach

*Almawave makes a synthetic, aggregated and prognostic index of clinical stability (CSI) for clinicians*

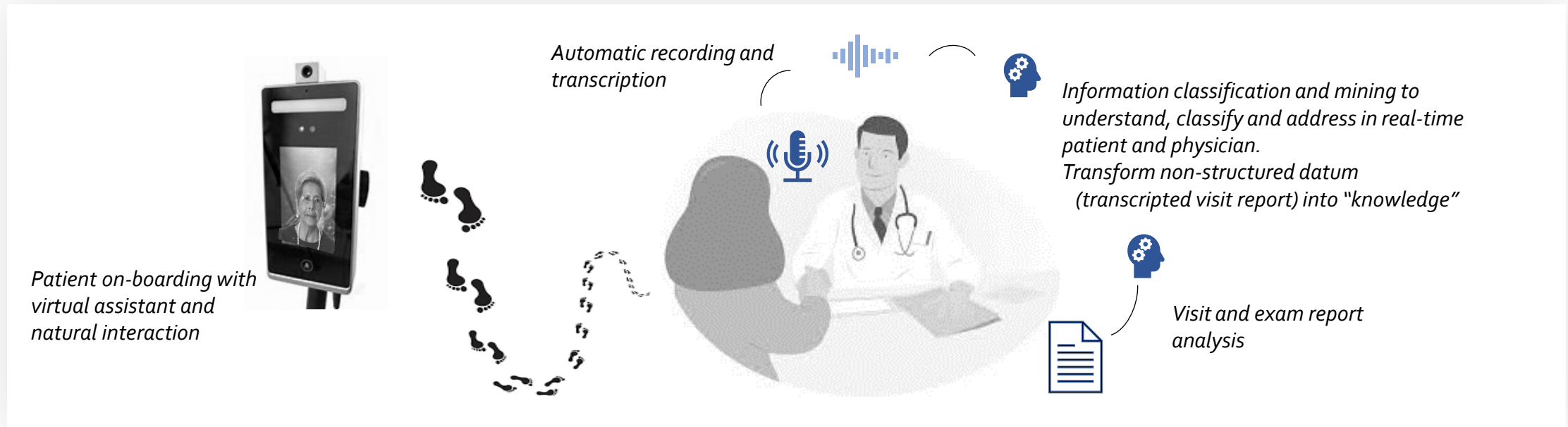


- A new concept of **connected healthcare**, a data enhancement and management to support the clinician for an «augmented decision»
- An ecosystem able to optimise and to support the clinical process
- An aggregate index to identify and to intercept a trend: **from diagnosis to prognosis**
- Patients are more engaged and benefit from better access to care
- Clinicians, thanks to an index to stratify, control, and value data, are better supported in their clinical and therapeutic decisions

*Using an optimised, targeted, and correct therapy, clinicians can manage the health of more patients*

# How is it possible to obtain structured and usable data? 1/2

*Natural Interaction to simplify patient journey, improve patient-doctor interaction and increase data and their value*



Smart transcription and reports



Report data extraction



Health Record Enrichment



Pathway suggestion (PDTA, ICD-9)

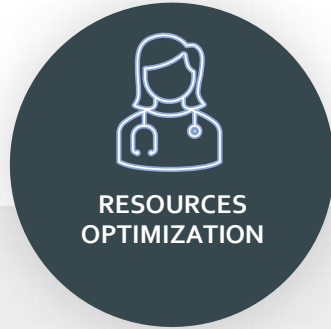


Patient interface management (virtual assistant)



Data quality

## How is it possible to obtain structured and usable data? 2/2



Physician not have to enter additional info, so administrative burden is less and the focus on patient and care pathway is higher



Planning is achieved in a procedural way from the beginning, giving ex-ante all the information needed for scheduling procedures (info&data driven)



Opportunity to analyse deviations between planning, projections, and facts means to identify and improve eventual structure or consolidate habits or procedures

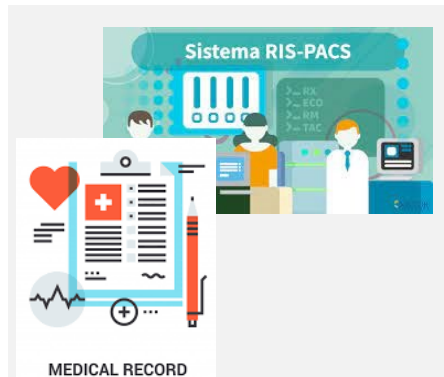


Without changing protocols and personnel work methodologies, especially in clinics, structured, organised and usable data are available for next and future clinical upgrade (patient stratification, stability and risk index,...), thanks to dedicated tools and infrastructure

*Resource optimisation and improvement*

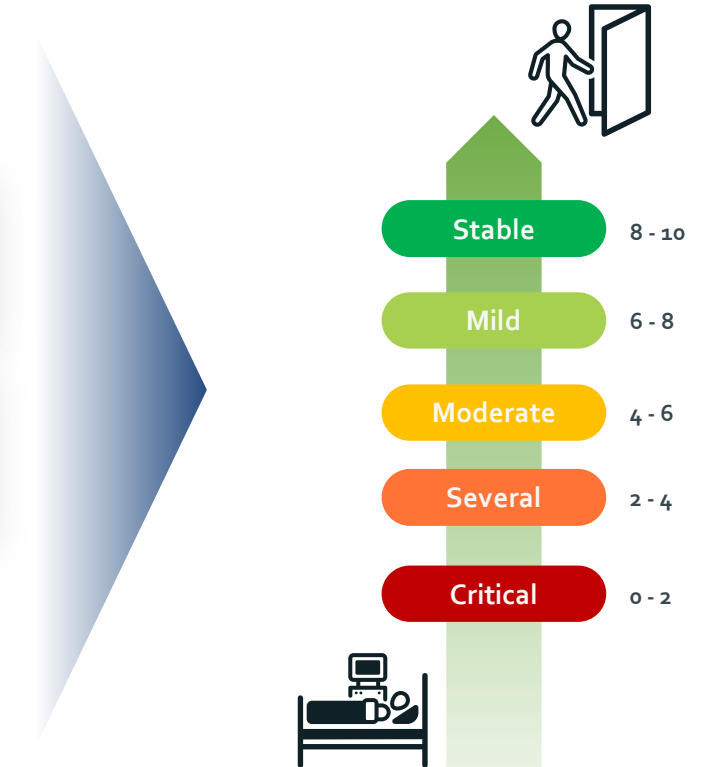
# Transform data to indication 1/2

## *Synthetic and prognostic index for improvement/worsening trends*



Vitals	Survey (QoL, Symptoms, Score, LifeStyle,...)	Diagnostic Exams (ECG, US, Imaging, Biopsies,...)
Epidemiological Link, Guide Lines, Literature,...	Comorbidities, Anamnesis, Risk factors	Follow up and therapies (controls, pharmacology, rehabilitation,...)

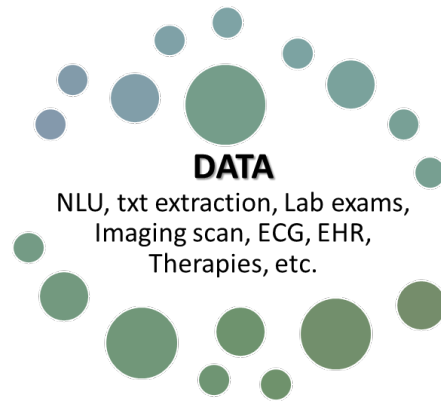
- 1 Regional Medicine
- 2 Participatory and Home Medicine
- 3 Hospital CDSS for patient pathways (early discharge)
- 4 Therapy adjustment and adherence



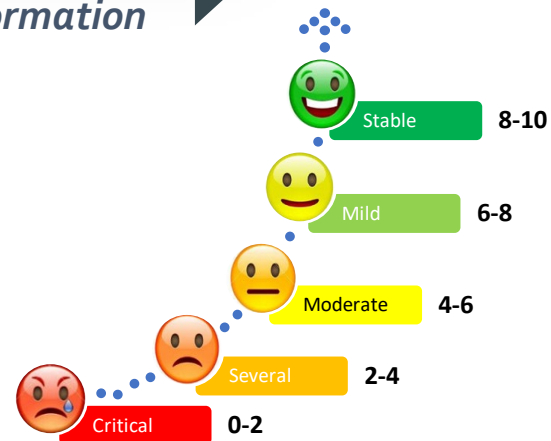


## Transform data to indication 2/2

*From data....*



*....to information*



- «augmented decision» supports clinician in patient management, thanks to risk cluster identified and its prognostic projection. It is not only a probabilistic calculation.
- Thus data will never be too much and physicians won't have to arrange the monitoring of every item, change or variation. They can focus on taking decisions when index alerts about instability trend.
- «**one-to-many**» approach is possible. It means better access to care, stronger clinical focus for more appropriate decisions, and a solution for providers about resources and logistic problems. **One clinician for many patients.**

# CSI in real life: RicovAI-19

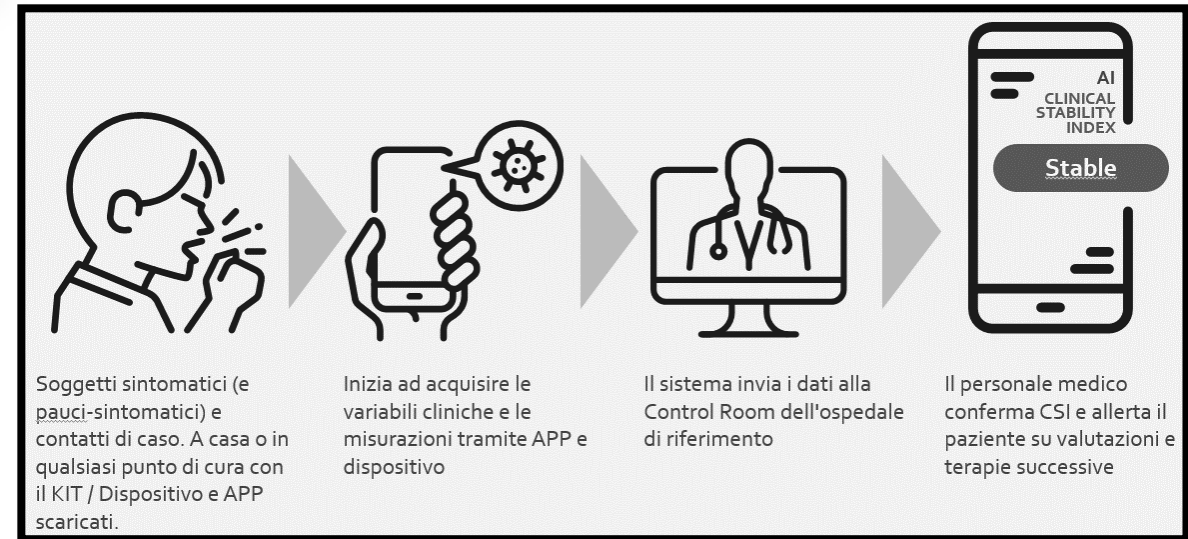
## Case History: home monitoring based on Artificial Intelligence for patients affected by SARS-CoV2

Vitals	Alert systems alarm (SpO <sub>2</sub> , breathing difficulties,...)	Major symptoms (fever, cough)	Minor symptoms (weakness)
Epidemiological Link	Comorbidities	Risk factors (hypertension)	Other risk conditions (social isolation)



### CSI is an index:

- **Prognostic:** future trend stability indication
- **Explainable and transparent:** index could be verified and confirmed by clinician (augmented decision)
- **Synthetic:** more data means more complete index with same resources involved (**one-to-many approach**)
- **For stratification:** index permits a specific pathway and actions for the patient (tailored care)



# Artificial Intelligence: Patient at the center thanks to technology



## A system with two foci: clinician and patient.

- AI enables data enhancement - giving evolved instruments to manage the care pathway in the best way
- Clinicians can focus on the clinic, thanks to the aggregate and prognostic index

**PATIENT AT THE CENTER**

