

Remote Patient Monitoring Project

Moving the hospital bed to the patient's home



Simon Personal Home Gateway

ENCRYPTS AND COMMUNICATES ANY MEDICAL DATA FROM
PATIENT'S HOME TO CENTRAL HEALTH INFORMATION SYSTEM

*"The fact that discharge-ready patients remain in hospitals is a well-known problem. Today, about **5 percent** of care places are occupied by patients who **should not be there.**"*

Läkartidningen¹

*"The whole way of thinking is based on working more proactively by finding ways to **get measured values in real time.** In this way, we can identify deteriorations more quickly and provide effective and good care for patients in the home environment."*

Chief Medical Officer Ulf Rosenqvist²



*"Too many hospital admissions reflect failures in the management of health problems in the community and consume **over 37 million bed days each year across the EU.**"*

Health at a Glance 2018 by OECD/EU³

1. www.lakartidningen.se/Aktuellt/Nyheter/2015/03/Sa-ska-problemen-med-utskrivningsklara-patienter-losas/
2. www.lakartidningen.se/Aktuellt/Nyheter/2019/05/Digitala-hemmatningar-ska-ge-farre-akuta-inlaggningar-i-Ostergotland/
3. www.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2018_health_glance_eur-2018-en

Many millions more patients could be monitored from home!



**EU cost for unnecessary hospitalisation:
20 000 M€**



1. https://ec.europa.eu/health/sites/health/files/ehealth/docs/2018_provision_marketstudy_telemedicine_en.pdf
2. https://www.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2018_health_glance_eur-2018-en

Simon Personal Home Gateway Project

- “Bringing Care Home”
- Adopting a laboratory to Laboratory Information System (LIS) gateway “Simple Simon Plus” to remote monitoring of patient at home; “Simon Personal Home Gateway”.
- Improved home monitoring of chronically ill patients allows homecare to replace expensive hospitalisation.
- Goals:
 - => Reduce inpatient care time
 - => Reduce healthcare costs
 - => Empower the patient



Why?

Heart failure

Diabetes

Chronic obstructive
pulmonary disease
(COPD)

Oncology patients

...and other chronic
diseases.



What?

Body weight

Blood pressure

Blood glucose

Urine tests

Spirometry

...an infinite number
of different devices
can be connected.

How?

- Connect several devices to a common interface.
- Send data remotely to host network using a “gateway”.
- All communication, including results.
- All-in-one solution for all equipment.
- Adaptable to individual level.

=> **Simple Simon Plus**



Simple Simon Plus

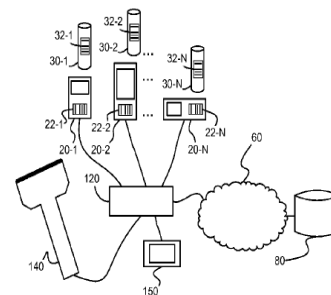
- Encrypted barcode technology.
- Easy setup and configuration.
- Easy upgrade.
- No need for onsite tech support.
- Managed by patient.
- Patented.



(10) International Publication Number
WO 2012/026872 A1

(54) Title: SYSTEM FOR ENABLING TEST DATA FROM A CLINICAL ANALYTIC DEVICE TO BE COMMUNICATED TO AN ELECTRONIC PATIENT INFORMATION MANAGEMENT SYSTEM

(57) Abstract: A system for enabling test data resulting from an analytic determination carried out on a clinical analytic device (20-1) to be communicated to an electronic patient information management system (80), the system comprising: a computer module (120-1) communicatively connectable to the clinical analytic device (20-1), a user operable control unit (140) communicatively connectable to the computer module (120-1), and an instrument tag (22-1) readable by the user operable control unit (140) and associated with the clinical analytic device (20-1).



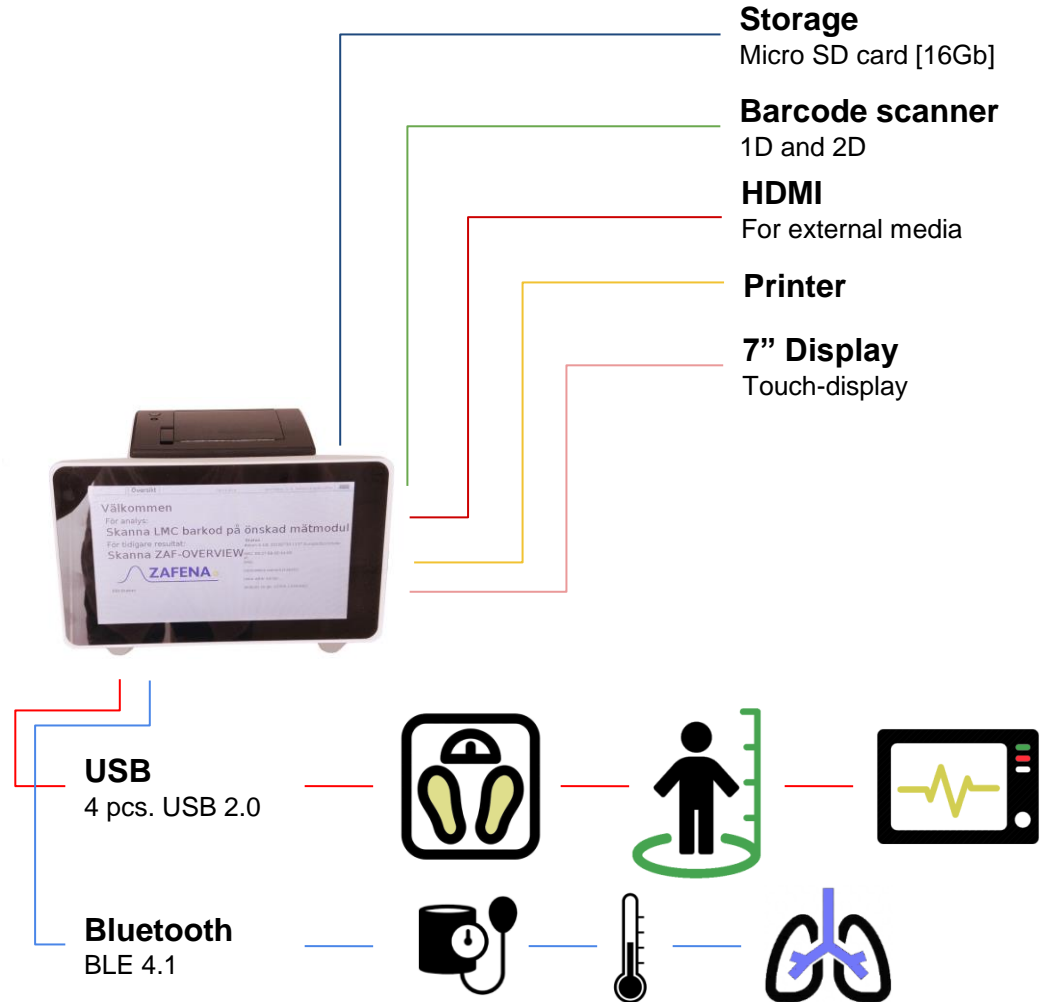
Acceptera & skicka in



Förkasta resultat

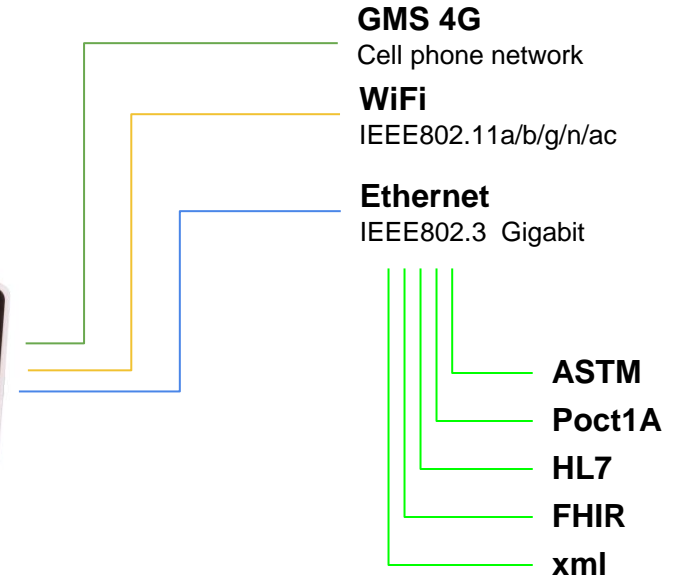
Simple Simon Plus

- Cable connected medical devices.
- Bluetooth enabled to handle small and mobile medical devices.
- Step by step instructions appear on screen.
- Unique barcode attached to each sensor to ensue identity and traceability.



Simple Simon Plus

- Multiple communication standards
Ethernet, Wifi or Cell phone network.
- Encrypted data and communication tunnel.
- Multiple communication protocols
ASTM, Poct1A, HL7, FHIR, xml.

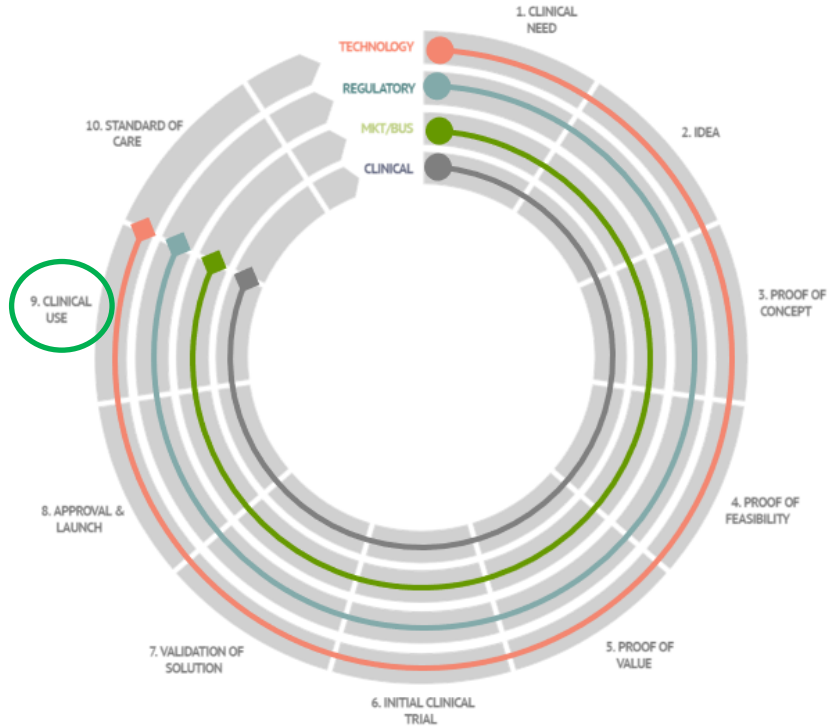


Simple Simon Plus

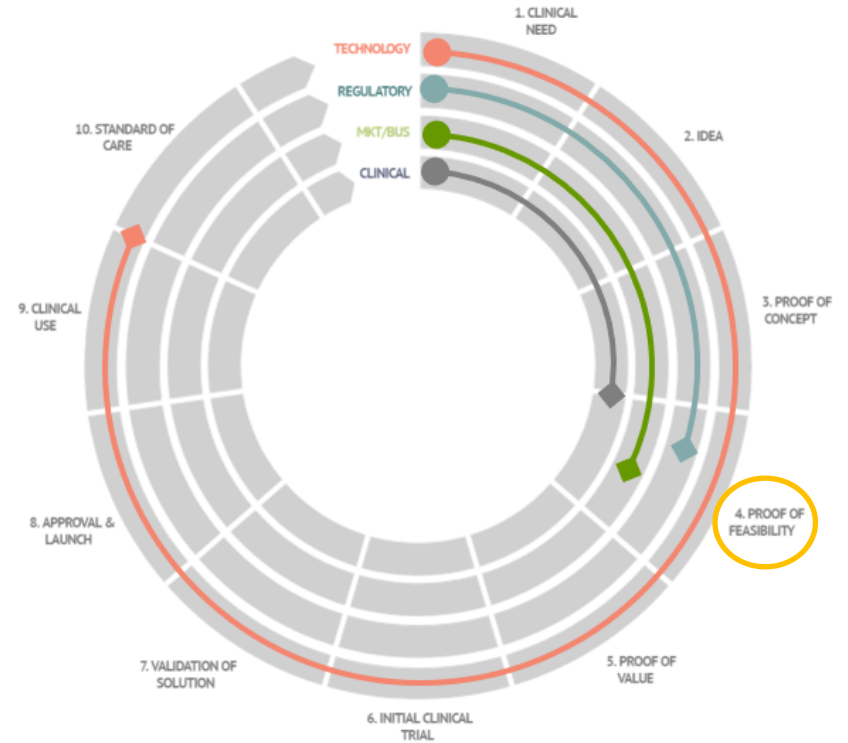
- >300 installations
 - >40 MedTech manufacturers
 - Medical device manufacturers need not be involved, no ICT updates.
Only the gateway has to be updated.
- ⇒ Longer lifespan for medical devices!
- ⇒ Incentive for manufacturers to collaborate!
- ⇒ Less costs for manufacturers and healthcare!



Simple Simon Plus



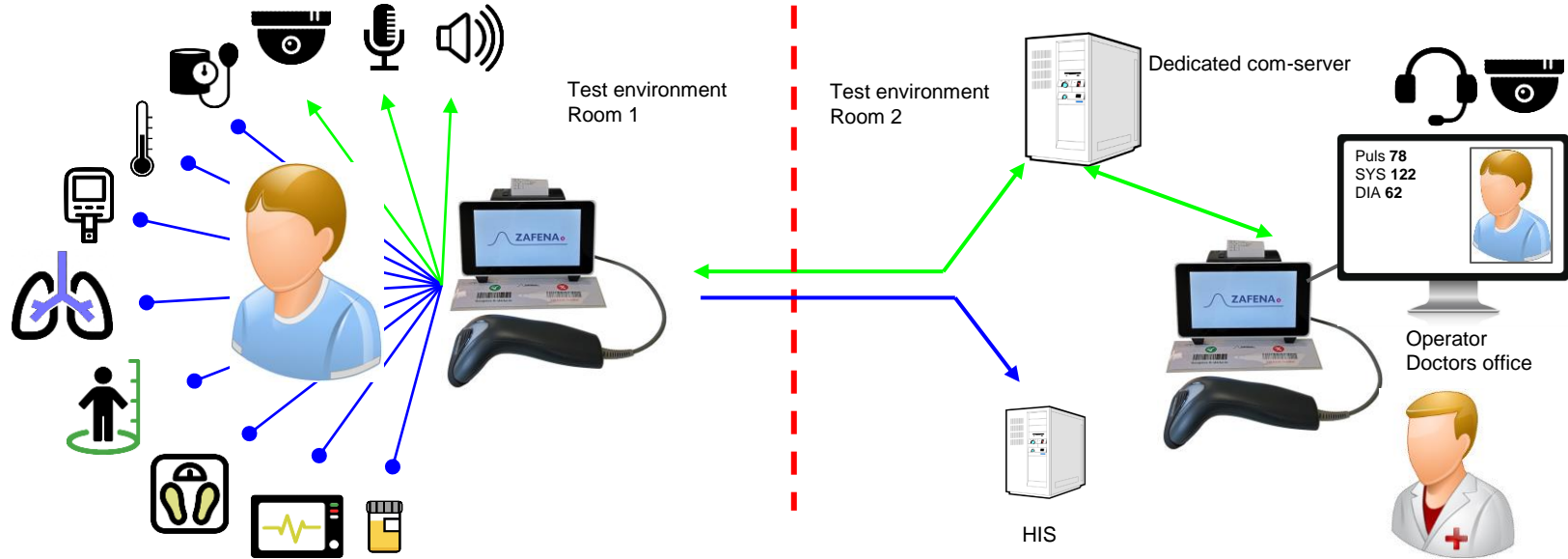
Simon Personal Home Gateway



Innovation Maturity Levels (IML) of current and future product version.

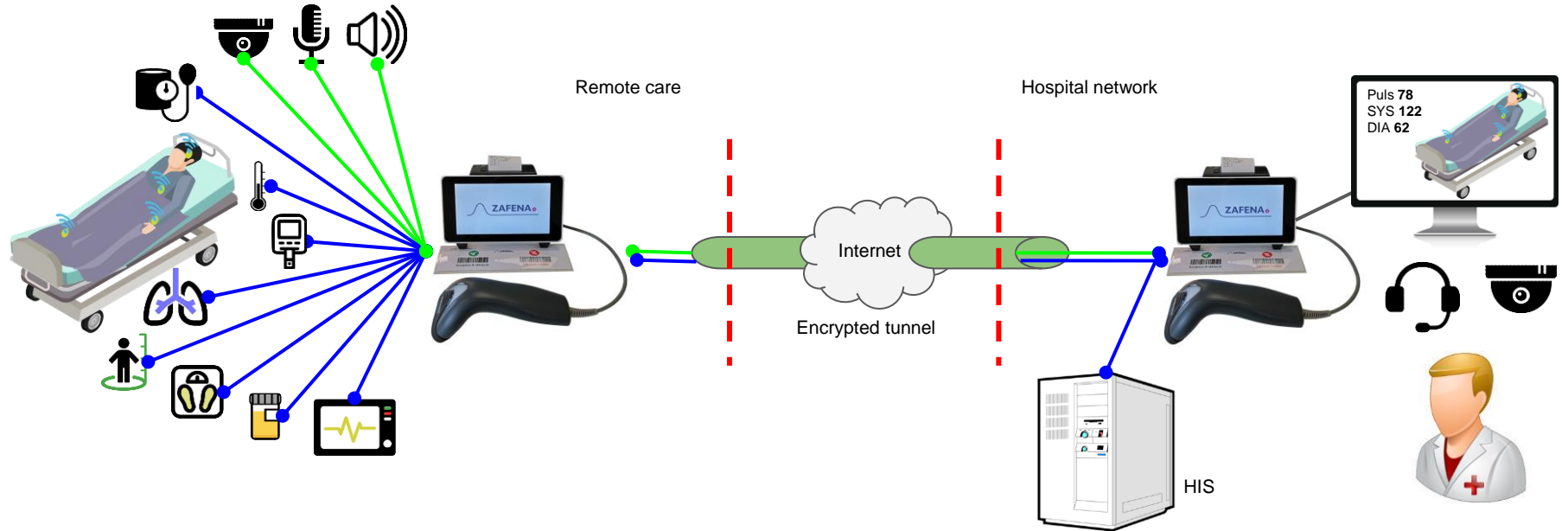
Simon Personal Home Gateway

Educational set-up at the hospital:



Simon Personal Home Gateway

Finalized set-up, connecting patients at home:



Key factors to success

1. The unique flexibility in the choice of medical devices, already displayed by patented Simple Simon Plus, is a competitive advantage.
2. Making the home monitoring data available, not from supplier's service portal, but from the patient's electronic health record (EHR).
3. Establishing a business concept, taking into account reimbursement issues.



Results 5 years after project end

130 000

Gateways sold

260 000

Patients monitored remotely

"The digital transformation of health and care, a key component of the EU's Digital Single Market, offers tremendous potential for improving the prevention, detection and management of chronic diseases, as well as improving health system management and research."

Health at a Glance 2018 by OECD/EU

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