

RIDE

A Roadmap for Interoperability of eHealth Systems in Support of COM 356 with Special Emphasis on Semantic Interoperability

RIDE is a roadmap project for interoperability of eHealth systems leading to recommendations for actions and to preparatory actions at the European level. This roadmap will prepare the ground for future actions as envisioned in the action plan of the eHealth Communication COM 356 by coordinating various efforts on eHealth interoperability in member states and the associated states.

Objectives of the project

It is not realistic to expect to have a single universally accepted clinical data model that will be adhered to all over the Europe and that the clinical practice, terminology systems and EHR systems are all a long way from such a complete harmonization. Therefore, the **RIDE** project will address the interoperability of eHealth systems with special emphasis on semantic interoperability.

In order to create **RIDE** Roadmap, first the European best practices in providing semantic interoperability for eHealth domain will be assessed and the quantified requirements to create a valid roadmap will be identified. Based on these requirements, the goals, and the economical, legal, financial and technological challenges of the industry for the 21st century for achieving interoperability in eHealth solutions will be elaborated. **RIDE** will also focus on the limitations of the policies and strategies currently used in deploying interoperable eHealth solutions. Through eight **RIDE** workshops a shared vision for building a Europe-wide semantically interoperable eHealth infrastructure will be created. After assessing the gaps between the “as-is” situation and the “to-be” eHealth

vision, the emerging trends and opportunities to achieve the vision statement, the required advances in the state of the art research, technology and standards will be identified.

Project Description

RIDE is a roadmap project for research and development in interoperability of eHealth systems leading to recommendations for actions and to preparatory actions at the European level. This roadmap will prepare

the ground for future actions as envisioned in the action plan “eHealth – Making Healthcare Better for European Citizens: An Action Plan for a European e-Health Area” by coordinating various efforts on eHealth interoperability in member states and the associated states.

A number of EHR standards and frameworks have been developed to assist with the interoperability and integration of distributed EHR information.

Ideally, all EHR systems would adopt common and systematized hierarchies of component names, use

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Scenario

The family doctor, Bob Smith wishes to refer a patient named John Doe to a diabetic specialist named Mary Brown in Istanbul Hospital. The referral note of Bob Smith should be available to Mary Brown to continue the care process. This has several requirements some of which are presented here: The Patient Identifiers used by the document source and document consumer should be matched; the communication protocol used by these parties should be fixed; the interoperability of the messaging and EHR standards used by the parties should be facilitated.



multi-lingual clinical coding systems with perfect cross-mappings and use identical reference models for measurements. However, this has not been realized yet.

It is unrealistic to expect a single universally accepted clinical data model that will be adhered to by all of these groups. Clinical practice, terminology systems and EHR systems are all, hence, a long way from such a complete harmonization. Therefore this problem can better be addressed at the semantic interoperability level.

RIDE project, we will address interoperability of eHealth systems with special emphasis on semantic interoperability with the aim of laying a roadmap by coordinating various efforts in Europe to prepare the ground for future actions as envisioned in the eHealth action plan.

Expected Results & Impacts

The potential impact of the **RIDE** project lies in the following facts:

- **RIDE** Project offers European citizens important opportunities for improved access to better health systems by providing interoperability of eHealth systems. Interoperability enables the seamless, secure and fast access to comparable public health data and to patient information located in different places over a wide variety of wired and wireless devices.
- By providing substantial productivity gains, **RIDE** project offers governments and tax payers a means to cope with increasing demand on healthcare services.
- **RIDE** project offers semantic interoperability which provides the possibility for a health care professional in charge of a patient to have access at the point of care to the most relevant information, in the easiest way, and in the shortest possible time.
- In order to reduce clinical errors and improve safety, it is of utmost importance in any circumstance for a health professional to base her/his decision on the broadest possible range of data and information. **RIDE** Project addresses semantically enriched patient identification protocols for sharing patient data in broadest possible range.
- Interoperating healthcare applications brings the most benefit to automating healthcare business processes.
- One of the major challenges in developing computerized decision support systems is accessing the many disparate data sources needed to retrieve patient-specific information. Therefore, the clinical decision support systems hugely benefit from semantic interoperability.

Keywords:

eHealth networks and architectures, Semantic Interoperability of eHealth in Europe.

R I D E

A Roadmap for Interoperability of eHealth Systems in Support of COM 356 with Special Emphasis on Semantic Interoperability Intelligent Healthcare Monitoring based on Semantic Interoperability Platform

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- European Institute for Health Records, EuroRec, (FR)
- National Council of Research, Institute for Biomedical Technology, CNR, (IT)
- National Technical University of Athens, Institute of Communication and Computer Systems, NTUA, ICSS, (GR)
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