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1 Introduction

DECIPHER PCP is a project that aims at challenging companies and developers in designing mobile technologies that will provide an updated view of personal health data and a tool for long-term conditions self-management. Support for cross-border health is a specific design target for these technologies.

DECIPHER PCP is making use of the Pre-Commercial procurement (PCP) approach to steer the development of novel technological solutions from early R&D stages to the performance of the Proof of Concepts of the resulting services.

Through this process the consortium is aiming to align the supply side with the demand side and at the same time improving quality and efficiency of DECIPHER procuring authorities healthcare services through the adoption of technologies co-created with the industry.

DECIPHER PCP process will take place over 3 Phases: Design (Phase 1), Prototype (Phase 2) and Proof of Concepts (Phase 3). Prior to PCP, a Need Assessment Phase (Phase 0) was conducted to identify end-users needs (patients and healthcare professionals) and to define functionalities of innovation.

The present document aims to summarize the evaluation process and to assess the achievement of the evaluation objectives.

2 Introduction

PCP is essentially an “approach to procuring R&D services”. It is triggered by procurers identifying the need to find a solution to a specific problem of public interest for which they cannot yet find "commercially ready or nearly of R&D investment (step-change innovations, not incremental adaptations) to get the solution developed¹. Specifically PCP refers to: 1) R&D services following the product. Thus, R&D can include activities such as solution exploration and design, prototyping, up to the original development of a limited volume of first products, 2) It's based on risk among public authorities and industries solution, 3) it combines the risk competition, transparency, openness, fairness and pricing at market conditions to allow the public purchaser to choose/ identify the best solutions.

The objective of DECIPHER project was to promote the development of a mobile solution that enables secure cross-border mobile access to existing patient healthcare portals and efficient and safe medical care of mobile patients in EU member states. This solution should allow the management of long term conditions of patients with chronic diseases or unplanned care episodes. To reach this challenge at that time, a PCP approach was proposed. Thus, DECIPHER has deployed a nearly-ready" solutions on the market.

DECIPHER PCP process followed the standard 3 Phases: Design (Phase 1), Prototype (Phase 2) and Small-Batch Production (Phase 3). Prior to PCP, there were a Need Assessment Phase (Phase 0) to identify end-users needs (patients and healthcare professionals) and to define innovation.

The PCP began with a PCP a competition between a cohort of suppliers throughout each of the three PCP phases. This cohort started in phase 1 and competed to advance to phase 2. Those proposals which were selected on completion of phase 2 were enter phase 3 competition. In this PCP process defined by the EC, at the end of each Phase (following the life cycle of innovation) an intermediate evaluation is carried out.

In the context of DECIPHER project the objectives of WP4 was:

1. To design a framework to be used to evaluate the different bidders in terms of process and impact measures
2. To design a framework to be used to evaluate the different selected proposals covering technical and pre-pilot aspects and to be used generically when procuring pre-commercial solutions in the mobile health domain
3. To generate detailed standard reports of the evaluations

4. To prepare an impact evaluation of the project through a summative evaluation that will cover success and failure issues.

The aim of the evaluation (WP4) was to provide information to the contracting authorities to assess if the objectives defined for each phase and the overall objective of the project are finally reached.

3 Evaluation achievements of DECIPHER project

1. All evaluations frameworks and reports were defined and agree with the Consortium at the beginning of the project, before starting the PCP process. Award criteria and process competition was detailed described in the Invitation to Tender <http://www.decipherpcp.eu/call-tender>, Phase 0: Evaluation Report
2. All evaluations reports elaborated have been discussed with the Consortium and reviewers. This allowed us to include their suggestions. For instance, after the first review, reviewers suggested to involved end users (patients with diabetes II and physicians) in the evaluation process of each Phase of PCP process. End users for each country of the Consortium were included in the monitoring activities. An *ad hoc* questionnaire adapted to each Phase was elaborate to gather information of end users about usability of the bidders solutions (learnability, efficiency, errors and satisfaction/ user experience). Results of the questionnaire alongside with results of monitoring team were provided to the bidders. The questionnaire and the process are described in Phase 1: Evaluation Report.
3. Expert Panel assessed bidders solutions at the end of all phases to allow the selection of those that were the most innovative. At end of Phase 1 Design 9 solutions competed, 6 were selected, according with Award criteria (Table 1). Later in the Phase 2 Prototype from 6 solutions 3 were selected.

Table 1. Results of Award criteria at end Phase 1 Design

| | | | Alteraid | E-results srl | GNOMON / iUZ Technologies Lda | ISBM | Socialdiabetis |
|----------|-------------------------|--------------------------------|----------|---------------|-------------------------------|------|----------------|
| I | FUNCTIONALITY | | | | | | |
| | Basic functions | | | | | | |
| | | Secure access to PA-PHR-S | 8 | 6 | 8 | 4 | 4 |
| | | Share information | 8 | 6 | 8 | 4 | 6 |
| | | Care management | 8 | 6 | 8 | 6 | 8 |
| | | Inform in emergency situations | 6 | 8 | 8 | 6 | 6 |
| | Design functions | | | | | | |

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| | | | Alteraid | E-results srl | GNOMON / iUZ Technologies Lda | ISBM | Socialdiabetis |
|------------|-------------------------------|--|----------|---------------|-------------------------------|----------|----------------|
| | | Provide user interface accessibility | 8 | 8 | 8 | 4 | 8 |
| | | Provide data availability and redundancy | 8 | 4 | 8 | 6 | 6 |
| | | Satisfy technical design requirements | 8 | 8 | 8 | 6 | 4 |
| | | Satisfy business model design requirements | 6 | 6 | 6 | 4 | 4 |
| II | INNOVATION | | 1 | 1 | 1 | 1 | 1 |
| III | IMPACT OF INNOVATION | | 8 | 6 | 8 | 6 | 6 |
| IV | QUALITY | | | | | | |
| | | Quality in Management | 8 | 6 | 8 | 6 | 6 |
| | | Quality of Risk Management | 8 | 6 | 6 | 6 | 6 |
| V | TECHNICAL FEASIBILITY | | 8 | 6 | 8 | 6 | 6 |
| VI | COMMERCIAL FEASIBILITY | | 8 | 4 | 8 | 4 | 6 |
| VII | FINANCIAL FEASIBILITY | | 8 | 6 | 6 | 6 | 6 |

(cont.) Table 1. Result os Award criteria at the end of Phase 1 Design

| | | | Linkcare | Nabelia | Nextage | Nissatech |
|----------|------------------------|---------------------------|----------|---------|---------|-----------|
| I | FUNCTIONALITY | | | | | |
| | <i>Basic functions</i> | | | | | |
| | | Secure access to PA-PHR-S | 6 | 6 | 10 | 8 |
| | | Share information | 8 | 6 | 8 | 8 |

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| | | | Linkcare | Nabelia | Nextage | Nissatech |
|------------|--|--|----------|----------|----------|-----------|
| | | Care management | 8 | 8 | 8 | 8 |
| | | Inform in emergency situations | 8 | 4 | 10 | 8 |
| | | Design functions | | | | |
| | | Provide user interface accessibility | 8 | 8 | 8 | 6 |
| | | Provide data availability and redundancy | 6 | 6 | 8 | 8 |
| | | Satisfy technical design requirements | 8 | 6 | 8 | 10 |
| | | Satisfy business model design requirements | 6 | 6 | 6 | 4 |
| II | | INNOVATION | 1 | 1 | 1 | 1 |
| III | | IMPACT OF INNOVATION | 8 | 4 | 8 | 8 |
| IV | | QUALITY | | | | |
| | | Quality in Management | 8 | 4 | 6 | 8 |
| | | Quality of Risk Management | 4 | 6 | 6 | 8 |
| V | | TECHNICAL FEASIBILITY | 8 | 6 | 8 | 6 |
| VI | | COMMERCIAL FEASIBILITY | 8 | 6 | 8 | 6 |
| VII | | FINANCIAL FEASIBILITY | 8 | 6 | 6 | 6 |

4. The results of Expert Panel were the selection of Linkcare, Nextage, Gnomon, Alteraid, Nissatech, E-results. In Phase 2 Prototype (Table 2) Award marks were: E-Results, Nextage and Gnomon.
5. These previous bidder solutions have reached the proof of concept. The process and results of monitoring outcome reports (MOR) and Expert Panel of each Phase are described. Phase 3: Evaluation Report & Summary Evaluation Report.
6. Monitoring outcome reports are delivered to the bidders before the final assessment of the Expert Panel. After the MOR assessment marks of solutions were:
 - a. Gnomon Ld. in functionality (10 good, 6 acceptable), , Innovations criteria (9 good, 1 acceptable), impact innovation innovations (1 good, 1 acceptable), quality (10 good, 1 acceptable), technical feasibility (1 good), commercial (1 good) and financial feasibility (good). Gnomon presented the best solution, with better marks.
 - b. Followed by e-Results: functionalities (3 good, 8 acceptable), Innovation criteria (12 acceptable), impact innovation (2 good, 2 acceptable), quality (3 good), technical feasibility (1 acceptable), commercial feasibility (1 acceptable), financial feasibility (1 acceptable).
 - c. Finally the marks of Nextage were: functionalities (3 good, 4 acceptable, 2 unsuccessful), innovation criteria (2 good, 6 acceptable, 5 unsuccessful), impact of innovation (2 good, 1 acceptable), quality (3 acceptable), technical feasibility (1 acceptable), commercial feasibility (1 unsuccessful), financial feasibility (1 acceptable). Phase 3: Evaluation Report & Summary Evaluation Report.
7. The results of the evaluations of the expert panel were aligned with MOR in case of Gnomon, but Nextage was in the second position and E-results in the last (Table 3). Phase 3: Evaluation Report & Summary Evaluation Report.

Table 3. Results of Award criteria of Phase 3 Proof of Concept

| | | Nextage SL | E-results srl | GNOMON / iUZ Technologies Lda |
|-----------|--|------------|---------------|-------------------------------|
| I | FUNCTIONALITY | | | |
| | <i>Basic functions</i> | | | |
| | Secure access to PA-PHR-S | 6 | 6 | 10 |
| | Share information | 8 | 6 | 10 |
| | Care management | 6 | 6 | 10 |
| | Inform in emergency situations | 8 | 6 | 10 |
| | <i>Design functions</i> | | | |
| | Provide user interface accessibility | 8 | 8 | 10 |
| | Provide data availability and redundance | 8 | 6 | 10 |
| | Satisfy technical design requirements | 8 | 6 | 10 |
| | Satisfy business model design requirements | 8 | 8 | 8 |
| II | INNOVATION | 1 | 1 | 1 |

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| | | Nextage SL | E-results srl | GNOMON / iUZ Technologies Lda |
|------------|-------------------------------|------------|---------------|-------------------------------|
| III | IMPACT OF INNOVATION | 8 | 6 | 8 |
| IV | QUALITY | | | |
| | Quality in Management | 10 | 8 | 8 |
| | Quality of Risk Management | 6 | 8 | 8 |
| V | TECHNICAL FEASIBILITY | 10 | 6 | 8 |
| VI | COMMERCIAL FEASIBILITY | 8 | 6 | 8 |
| VII | FINANCIAL FEASIBILITY | 8 | 6 | 8 |

8. Although, there were differences in marks among solutions, all of these solutions will be in a better position to start a process of innovative public procurement. The objective of DECIPHER PCP has been reached and the process has been transparent and competitive. However the duration of PCP has been much longer than expected.