

Business Plan

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Table of content:

1. Background	3
1.1 Constraints of the Business Plan	3
1.2 Target group	3
2. NETC@RDS' scope for the future and its aim	4
2.1 NETC@RDS' current service portfolio	4
2.2 NETC@RDS focus and scope for the future	5
2.3 NETC@RDS aim and future service portfolio	6
2.4 The technical concept.....	7
2.5 Self sustainable business model	9
3. Stakeholder analyses	10
3.1 NETC@RDS's current stakeholders and their needs	10
3.2 Stakeholders needs, related to NETC@RDS' current and future service proposition	14
4. NETC@RDS' business cases	16
4.1 Business case 1: Reduction of costs.....	16
4.2 Business case 2: Efficiency improvement	16
4.3 Business case 3: Reduction of fraud and cost containment	17
4.4 Business case 4: Quality improvement	18
4.5 Who is willing to pay for the NETC@RDS serviceportfolio	18
4.6 Justification and feasibility of the business cases: a domestic challenge	20
5 The future business model.....	23
5.1 How the business model looks like	23
5.2 Assumptions and starting points.....	23
5.3 The contract partner (CP).....	25
5.4 The local supplier (LS).....	25
5.5 The central coordination body (CCB)	25
5.6 Legal body	26
6. Cost- and finance model.....	27
6.1 Local costs.....	27
6.2 Assumptions for calculating central costs	28
6.3 Estimation of central costs.....	29
6.4 Cost allocation	31
6.5 Finance model	31
6.6 Break-even- point calculation	32

1. Background

As of June 1st 2004, European citizens travelling within the European Economic Area are provided with a European Health Insurance Card (EHIC), which simplifies the procedure for receiving any medical care that might become necessary during a temporary stay in another country. The EHIC, which replaced various paperbased E forms, represents a first step towards electronic exchange and processing of data. A second step concerns an electronic version of the EHIC, a so called eEHIC that can be electronically read in the premises of the Health Care Providers (HCP's) equipped with the appropriate card reader and whose validity can be verified online, by using a Pan European Portal infrastructure.

These were the main drivers and challenges to start the NETC@RDS project, sponsored by the European Commission. It was agreed with the EC to end the project status on June 30th 2011. Against that background, the NETC@RDS Consortium started at the end of 2009 the discussion, how to continue the NETC@RDS services after the project phase. For that reason the Consortium decided to draft a Business Plan, exploring whether a self sustainable business model would be feasible. This Plan explores both the future NETC@RDS¹ service portfolio, possible business cases and possible future partners, assuming to exploit a future self sustainable business model.

1.1 Constraints of the Business Plan

Both the EU Member States and the organizations, dealing with administrative processes, related to the health care sector have quite different starting situations. This means, that this business plan can only be considered as a framework, enabling interested partners to balance and calculate the business cases as addressed in this plan. In other words, each potential partner has to substantiate the feasibility of the business cases, given his specific situation in his country/region.

1.2 Target group

This managerial version of the Business Plan² is meant for parties not yet involved in NETC@RDS, but potentially interested in providing international services to health care providers and health insurance organizations. This Business Plan enables interested parties to balance, whether it makes sense for them to apply for a role as supplier of the NETC@RDS service portfolio, based on a self sustainable business model.

¹ In the BP the future service portfolio is still indicated as "NETC@RDS service portfolio". Since the NETC@RDS projects ends as from July 1st 2011, it is possible that the name NETC@RDS will no longer be used in the self sustainable business model.

² For those who are interested in the project backgrounds, a comprehensive version of the Business Plan is available

2. NETC@RDS' scope for the future and its aim

During the project phase, the Consortium built up a strong partners' network and a unique portal to portal infrastructure, providing facilities for safe and secure Pan European multi purpose data exchange. This Chapter gives an overview of NETC@RDS' current service portfolio and the lessons learned from the field during the project phase. Based on these lessons, NETC@RDS' scope- and aim for the future are described.

2.1 NETC@RDS' current service portfolio

NETC@RDS today is based on the original use case: "In case of EHIC no show, or EHIC is expired, the national HIC (nHIC) can be used by EU citizens and accepted by EU Health Care Providers, based on an online proof of entitlement. For this purpose, the NETC@RDS partners conducted a General Agreement (G.A).

Since NETC@RDS is a EC funded project, in the project phase services were developed, focused on the priorities of the European Commission. At the moment the following services are being provided:

- 1) Secure access to national Portals,
- 2) Automated data capture for nHIC and EHIC,
- 3) Online verification of patient entitlement, with nHIC and EHIC,
- 4) Data provision for both statistic purposes and potential input for eBilling.

The service is provided on a pilot basis on points of care (service units) in 16 Member States and Switzerland. Depending on the domestic situation and infrastructure not all the above listed services might be provided in each country.

2.1.1 Secure Access

Security is a crucial issue for online/real time data exchange. Against that background NETC@RDS established a common Information System Security Policy (ISSP), agreed by all NETC@RDS service suppliers. The ISSP requirements have to be implemented by each of the partners, providing HCP's access to the NETC@RDS services. NETC@RDS service suppliers are to be audited- and certified by an independent organization which is CERT certified. On a yearly basis, the actual status has to be re-audited.

2.1.2 Automated data capture

This NETC@RDS service enables the HCP to capture foreign patient's dataset from his nHIC or his EHIC. Capturing the relevant dataset can be done by:

- scanners and optical recognition for eye readable EHIC information
- keying in manually the EHIC data.
- smart card reader for a nHIC.

Those three different ways of inputs generate the same dataset format which allows launching a transaction (request for entitlement verification) through the NETC@RDS infrastructure.

2.1.3 Online verification of patient entitlement with nHIC and EHIC

This NETC@RDS service transmits patient's dataset from the Service Unit (SU) workstation, where the patient is been treated, through the NETC@RDS portal of the country of temporary stay, to the NETC@RDS portal of the country of patient's residence. The NETC@RDS service provides a real time response after having connected the back office of patient's HIO and having checked his entitlement.

The completed dataset, as a consequence of an online NETC@RDS response, enables the HCP to update automatically his backoffice and to invoice digitally (eBilling). Apart from replying the requesting HCP, this dataset can be forwarded to the HIO, in charge for foreign invoicing (HIFI) in the country of patient's temporary stay. Storing this dataset at HIFI's office and matching the digital invoices, after having received them from the HCP, enables the HIFI to generate a digital E125/SED, charging patient's HIO (via Liaison bodies).

2.1.4 Data provision for statistical purposes and potential input for eBilling

Every transaction, launched within any SU being a participant of NETC@RDS, is tracked at national portal level. These data allow to build indicators and dataflow cartography.

2.1.5 Lessons learned

Periodically the NETC@RDS Service Units (SU's), applying the NETC@RDS service were asked to evaluate the service and hospital clerks' experiences. The evaluation results received from the users indicate that the following modifications will increase the added value of the service and the acceptance to use the NETC@RDS online services in daily routine:

- NETC@RDS applications should be integrated into existing HCP's information systems
- NETC@RDS applications should also take part in the e-billing workflow by interlinking the local billing system in SU's with the local health insurance back offices.
- Web service oriented-version of the portals should be implemented
- All EHIC's, also from non-NETC@RDS countries, should be processed
- About 70% of the foreign patients do not show a nHIC or EHIC for health care entitlement. To increase level flows, patients have to be informed by their national health insurance companies. Moreover the possibility to use a national ID card as access key for verifying online/real time patient's entitlement, would add additional value and contribute to EU citizens service experience
- In case of EHIC no-show or, if the EHIC is expired, there should be automatically downloadable solutions in terms a a digital EHIC dataset and/or Provisional Replacement Certificate
- A tested and correct optical scanner for the management of the eye-readable EHIC is available but partly there was not enough budget for purchasing EHIC scanners for hospitals
- Technical problems with national portals have to be fixed. The service has to be reliable and should meet certain performance levels, to be agreed on in a SLA
- Apart from web service based data exchange, initiated by the SU's, a NETC@RDS website based service should be accessible via a domestic user interface, rather than a stand alone web site.

All these lessons learned were taken into account by designing the future NETC@RDS landscape.

2.2 NETC@RDS focus and scope for the future

Core of the current NETC@RDS service portfolio is providing proof of entitlement, supported by capturing and forwarding data in a standardized way, and providing secure and online access to backoffices.

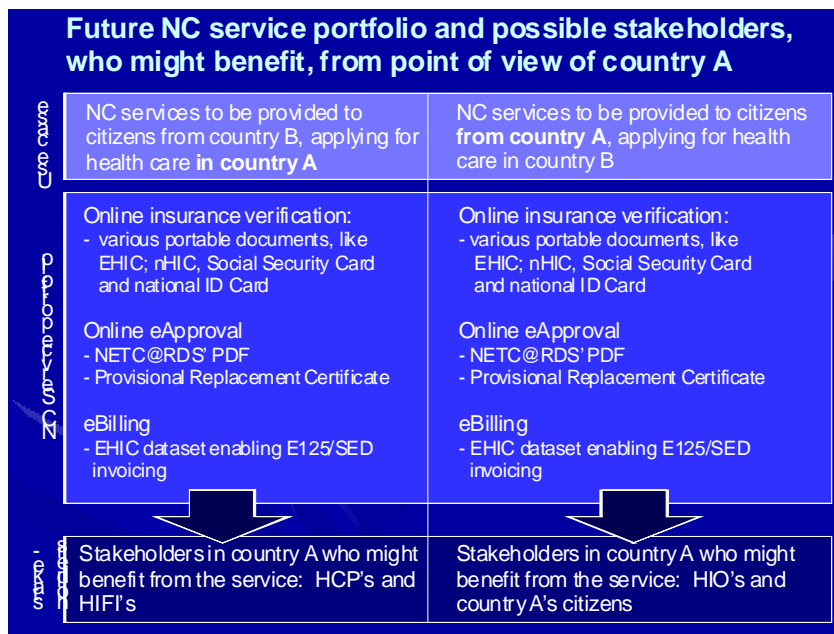
The NETC@RDS service architecture could potentially support various processes concerning cross border data exchange in the health care sector.

Nevertheless the Consortium decided, based on a SWOT analyses, to keep its focus on processes, referring to card validation and online verification of patient's entitlement. In other words, processes referring to patient authentication and exchanging clinical data are out of the scope of both the current- and future NETC@RDS service portfolio.

2.3 NETC@RDS aim and future service portfolio

Against the background of NETC@RDS' scope and focus, it is the aim of the NETC@RDS Consortium, to (let) provide its future users and clients³ with a full serviceportfolio enabling (cross border) entitlement verification, based on various portable documents⁴, regardless where the patient comes from⁵. Although the future service portfolio will be identical for both citizens from country B, applying for health care in country A, and citizens coming from country B, applying for health care in country A, the justification of the business cases, and the stakeholder(s) involved might completely be different. In picture 1, both the use cases, the service portfolio and the stakeholders, that are likely to benefit (financially) from the service portfolio, are depicted as follows:

Picture 1



Online insurance verification

Apart from the current EHIC, other portable documents like already applied national Health Insurance Cards (nHIC), Social Security Cards and national ID Cards are foreseen, to act as "key", for accessing the repository of patient's HIO, to verify his entitlement.

Industry standards will be provided, both aiming at reading Card's data electronically and at uploading the dataset in HCP's back office systems. The dataset will be forwarded as a request for entitlement from the point of care, and will be replied by patient's HIO in terms of

³ In this respect user and client are distinguished. The client is to be interpreted as the one, who is paying for the service. The user might be free of charge.

⁴ As portable documents in this respect are to be considered, the EHIC; nHIC and already applied and formalized national ID's (e.g. passport, social security card)

⁵ Within the scope of EU/EER.

an online approval.

Online Approval

In case patient's entitlement has been ascertained, the HCP will receive a digital approval. This approval is to be considered as a payment guarantee and can be provided as a NETC@RDS PDF or as a Provisional Replacement Certificate. Regardless the access key used, the HCP will receive a digital dataset in terms of an EHIC dataset, suitable for uploading his back office.

eBilling

The digital EHIC dataset, received as a result of the online approval, can be used by the HCP, to complete his invoice files, and to invoice digitally to his domestic body in charge for settling invoices for foreign EU citizens (in this report abbreviated as HIFI's).

The service portfolio foresees to be integrated within domestic health infrastructures (both within HCP's back offices and within infrastructures of national portal service suppliers). The integration of NETC@RDS services enables users and clients to apply domestic procedures, for cross border data exchange as well.

The services can support both unplanned care, and planned care, based on bilateral agreements.

2.4 The technical concept

Since each Member State has its own infrastructure, standards, procedures, syntaxes etc. it is a matter of fact, that on a national level each Member State should exchange data, based on familiar national standards.

Moreover domestic HCP's should not be bothered with the question where a patient comes from. He should be able to apply domestic procedures, similar to domestic patients. This means, that cross border services, should be integrated within the domestic infrastructure. As soon as data have to be exchanged cross border, the national portal (local supplier) should act as a black box and should route the data to the appropriate foreign portal.

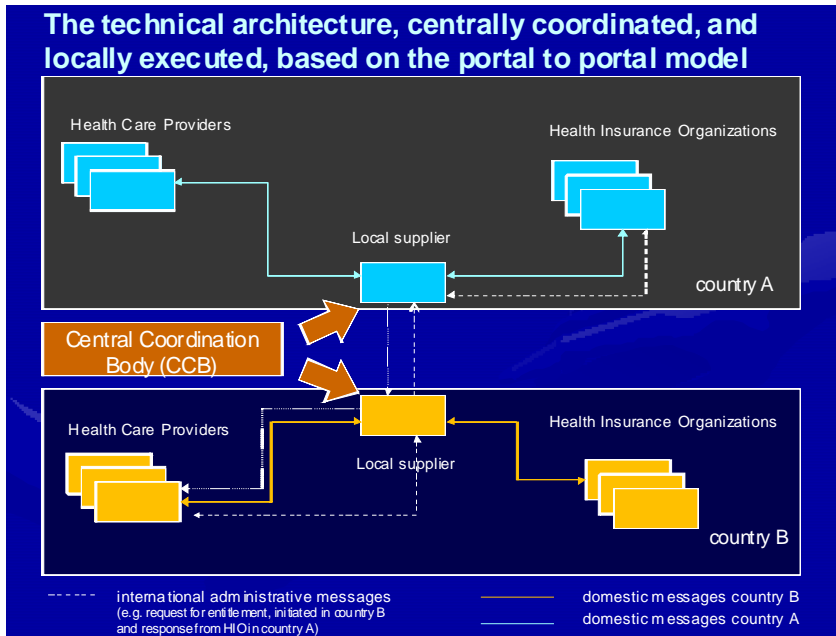
Data exchange between portals should take place web service based, and based on standardized data sets (WSDL). Depending on the domestic situation web services could also be applied for data exchange between Service Units (SU) and the national portal. The international standards are to be developed on a central level and to be aligned and agreed with other European parties. Security- and privacy regulations should be met, both on national and on international level.

2.4.1. Portal to portal architecture

Up to now the NETC@RDS service at the point of care (SU) is being provided based on a portal to portal architecture.

The portal to portal model, taking into account central coordination⁶, can be depicted as follows:

Picture 2



2.4.2 Convergence with EESSI

As stated before, it is intended to integrate the NETC@RDS service into domestic infrastructures on both the HCP's level and on the national level (national health infrastructure).

With the introduction of EESSI, national competent institutions will apply in May 2012 at the latest, EESSI for cross border data exchange.

Infrastructural EESSI and NETC@RDS are different: EESSI applies National Access Points (NAP's) accessing a Central Node, whilst NETC@RDS applies Portal to Portal communication. Moreover the target groups exchanging messages, the spot- and the moment⁷ the message is initiated, and the nature of the message (online request, assuming a response) are different.

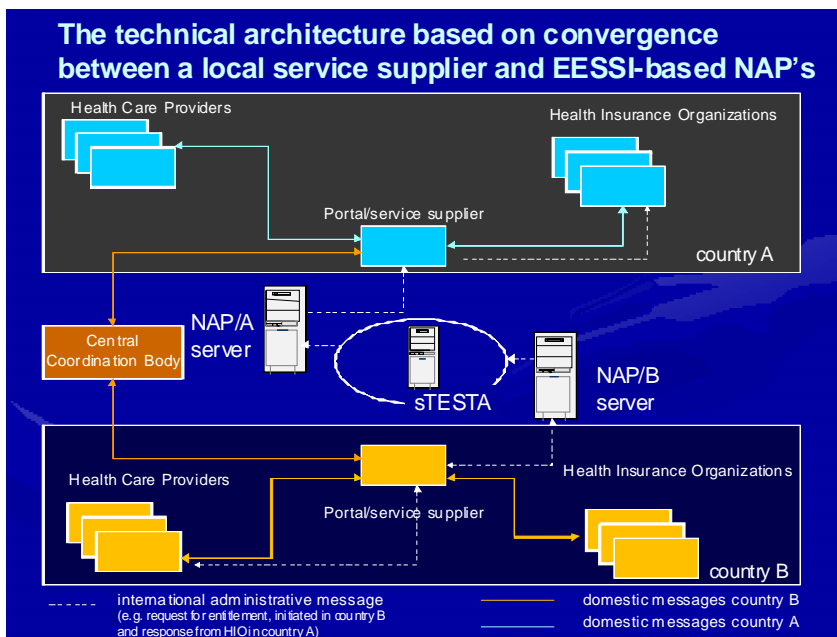
On the other hand, there are similarities. Against that background one of the crucial activities of the future central coordination body in the self sustainable business model will be to explore whether the online/real time international services could be provided via EESSI. On the short term, the current Portal to Portal structure is appropriate, but on the mid term a convergence could be achieved between EESSI and NETC@RDS.

⁶ The roles from both the Central Coordination Body and from the local Supplier will be elaborated in Chapter 5.

⁷ In NETC@RDS the transaction is initiated at HCP's point- and moment of care.

The convergence model between EESSI and NETC@RDS could look like this:

Picture 3



Call for Proposal

Some partners, joining the NETC@RDS Consortium, decided to participate in the call for proposal VP/2011/004 (Actions for cooperation and Information on Social Security Coordination). Main objective will be to study and explore, whether this convergence can be achieved, given the variety of health infrastructures in the member states and their own responsibility concerning the organization of their domestic architecture.

2.5 Self sustainable business model

The ultimate aim of the Consortium on the very short term is, to hand over the currently provided services to service suppliers that are willing and able to continue the NETC@RDS service in a self sustainable way, and to invest in the development of the intended service portfolio. These service suppliers could be current contracting parties of the General Agreement, and/or new interested parties.

3. Stakeholder analyses

During the project phase, the NETC@RDS Consortium is faced with a extensive playing field, with various players. These players often have a different background and interest. Moreover they are acting in quite different health care schemes. Apart from a great variety of players, the Consortium faces political influences and has to take into account national and international regulations.

This Chapter gives an outlook into the stakeholders, NETC@RDS is facing. Moreover per stakeholder, an analyses is made of its particular needs, as far as it concerns Health Care related online services.

3.1 NETC@RDS's current stakeholders and their needs

Being a project, initiated to support the European Commission's aim to simplify EU's citizens' access to health care in foreign member States, the European Commission was considered during the project phase as the main stakeholder by the Consortium. Against that background also other e-Health related EU funded projects were considered as stakeholder. Facing the end of the project, stakeholders on the "market place" became more and more important. It is likely, that the "Market" and "Market Parties"⁸ will determine finally, whether NETC@RDS⁹ is viable on the long run.

For the current- and future NETC@RDS' service portfolio, the following stakeholders were distinguished (in a random order)

- The European Commission
- Other eHealth projects, funded by the EC, like epSOS, STORK and HPRO.
- EU/EEA citizens as final beneficiaries of the service
- Health Care Providers (HCP) as users (by local or national agreement)
- Health Insurance Organization of EU/EEA citizen (HIO)
- Health Insurance Organization in charge with Foreign Invoicing (HIFI) (up to now ruled by a General Agreement (GA))
- National Liaison bodies (up to now ruled by GA)
- Industry as interest group

In the next paragraphs, the stakeholders' profile is concisely elaborated. Moreover their needs and requirements concerning online health services as far as they fit within the scope of the NETC@RDS service portfolio are explored.

3.1.1 European Commision (EC)

During the project phase, the EC acts as co-funder of the project. Against that background, the Consortium has to meet the eEHIC related project goals, agreed with the EC and is accountable for its achievements to the EC. The project goals are limited to services, focused on electronic cards and the EHIC, enabling European citizens to easily access cross border health care in Member States.

After the project- and funding phase, the EC will withdraw as co-funder. That means, that the NETC@RDS service can only be continued, if there are other stakeholders, willing to finance the service.

⁸ Market- and marketparties to be interpreted as potential clients, demanding for (NETC@RDS') services, that are beneficial for them, and contribute positively to their own business

⁹ NETC@RDS to be interpreted here as the service portfolio, to be offered in an appropriate business model

Needs of the European Commission

Although, the EC will no longer be a co-funder of the service, the aims of the European Commission will remain of strong importance for the future NETC@RDS service portfolio. The European Commission (DG INFSO and DG SANCO) encourage open markets inside the EU/EEA, recognition of social rights, and entitlement to cross border health care to mobile citizens. Moreover easy access to safe health care abroad should be safeguarded.

This EC ambition provides opportunities for the NETC@RDS service portfolio in terms of servicing citizens by simplifying their proof of entitlement abroad, and enabling HCP's to apply administrative procedures and standards for foreign patients, similar to domestic ones.

Moreover, health care in Europe is a national prerogative of the European members states. This implies that various health care systems, architectures, identifiers, standards, institutions and procedures will co-exist and ought to interact with each other. On a Member State level domestic standards and procedures will be applied whilst cross border data exchange has to be based on commonly agreed standards on a European level. Interoperability will become the key issue.

3.1.2 Other eHealth projects, funded by the EC

Within the European Health Care sector other projects are to be distinguished, being supported and funded by the European Commission. Most relevant from the point of view of NETC@RDS are the projects epSOS, STORK and HPRO.

As far as eHealth projects are patient related, they have in common, that the patient has to be identified, his data have to be captured from a portable document and registered, the data have to be forwarded, and various requests are done from the point of care to patient's residential repositories and back offices. As result of a request from the country of (temporary) stay, a response from the residential repository/back office is to be expected. Moreover the process is considered to be safe and secure and privacy regulations should be respected. This is the domain, the NETC@RDS service portfolio can contribute to those projects.

3.1.3 EU/EEA citizens

The European citizenship has a legal existence, since the Treaty of Maastricht in 1992. Nowadays, citizens of a particular European Member State become more and more European citizens. Cross border health care increases, both for planned and unplanned care. In particular in Euregions, planned cross border health care is getting common practice. As result of the increasing mobility the use of unplanned care increases too.

Since the EC aims and stimulates free movement across the EU and safeguards safe access to health care abroad, the European citizen relies- and expects health care in another Member State to be provided without restrictions. In case of planned or not planned health care, the EU/EEA citizen wants not to be bothered by bureaucratic and procedural matters.

He would prefer not to apply for a dedicated and separate health card, like the EHIC, but to identify with his national ID card. (like eCard, passport or social security card).

Citizens' needs

Within the scope of the (potential) NETC@RDS service portfolio, the EU citizen's needs can be defined as follows:

- the citizen should easily and quickly be identified by regular means like a national ID or a social security card, rather than applying for a separate EHIC.
- privacy regulations should be met
- access to planned health care should be facilitated without bureaucracy
- patient's entitlement should be validated real time/online and digitally confirmed
- patient should as far as possible not be faced with cash payment
- patient should not be faced with private tariffs

3.1.4 Health care providers (HCP)

European health care providers (HCP) are faced more and more with a foreign patients. In border regions/Euregions, HCP are even actively recruiting patients across the border.

HCP's needs

Within the scope of the (potential) NETC@RDS service portfolio, the HCP's needs can be defined as follows:

- the HCP should be able to apply familiar domestic procedures, standards and interfaces
- the HCP wants a quick and efficient administrative intake of the patient (entitlement check, registration, back office integration), regardless where is patient comes from
- the HCP wants a payment guarantee from patient's insurer and/or a domestic body online before patient is leaving,
- the HCP wants efficient (digital) invoicing, according to domestic procedures and standards
- the HCP wants payment in line with domestic terms.

3.1.5 Health Insurance Organization of EU/EEA citizens (HIO)

Depending on the health system in the Member State, the health care organization of the patient is eager to provide the best service possible to its insured, against a competitive premium. In case the insured is in need for health care abroad, this additional service is much more needed and required by the insured, than in a familiar domestic setting. As a matter of fact, the foreign service has to be provided cost effectively.

HIO's needs

Within the scope of the NETC@RDS service portfolio the needs of HIO are to be distinguished between service driven and cost driven needs. Translated into NETC@RDS service portfolio terms:

- the HIO wants to support its insured to prove his entitlement abroad easily, without need to call or fax for a Provisional Replacement Certificate from abroad
- the HIO wants from business point of view a cost-effective online insurance verification, based on various portable documents
- depending on its corporate policy, the HIO wants to provide its customers easy access to planned care in border regions
- the HIO wants to provide HCP abroad online and cost effective evidence of this entitlement (e-Approval/payment guarantee)
- the HIO wants the patient getting safe health care abroad and safe continuity of care being back in his home country
- the HIO wants timely costs accounting concerning care delivery abroad
- the HIO wants no fraud, as a result of misusing entitlement ID's by third parties

- the HIO wants to be charged for health care provision abroad by using SED's, being the European invoice standard. In case of planned care the HIO might have other requirements concerning the invoice content
- the HIO wants no (paper based) invoices, directly from the patient, but indirectly from Liaisons or other competent institutions.
In case of planned care, direct billing from foreign HCP should also be supported.

3.1.6 Health Insurance company in charge with Foreign Invoicing (HIFI)

Depending on the member state, various bodies might be in charge dealing with invoices concerning health care, provided to foreign EU/EEA citizens.

A HIFI in this context is defined as the organization, operating the invoice flows from HCP, concerning foreign EU/EEA citizens. In other words, it covers the process between HCP and HIFI. Irrespective of how the "foreign" invoice flow is organized nationally, bodies involved want an efficient and effective invoice process.

HIFI needs:

Translated into NETC@RDS service portfolio terms:

- the HIFI wants to get provided with an EHC dataset and/or a provisional Replacement Certificate from patient's insurer
- the HIFI wants to receive invoices according to domestic standards
- the HIFI wants to deal with invoices digitally
- the HIFI wants to be sure, that the amount due will be compensated by the foreign body/Liaison (valid card)
- the HIFI should be able to generate automatically an E125/SED for the competent foreign institution out of the received data
- in case the HIFI provides pre financing, it is willing to be compensated within normally accepted payment terms
- the HIFI wants no discussions afterwards with foreign bodies about patient's entitlement

3.1.7 European Liaison bodies

Depending on the member state, one or more Liaison bodies are in charge with clearing invoices concerning health care, provided to citizens of another Member State. In this context the Liaison is defined as the body, in charge for invoicing health costs for foreigners, to a comparable foreign body. In Regulation 883 it is ruled, that on May 1st 2012 at the latest, each Liaison body will invoice digitally, based on standards, set by Structured Electronic Documents (SED). Regardless how foreign invoicing is organized, National Liaisons want an efficient and effective invoice process, meeting the EESSI requirements.

Liaisons' needs

Translated into NETC@RDS service portfolio terms:

- The Liaison should be able to provide SED's to the foreign Liaison
- The Liaison exchanges data by using its National Access Point, providing access to sTESTA as European backbone
- In case the Liaison provides pre financing on a national level, it is willing to be compensated by the foreign Liaison within normally accepted payment terms
- the body wants no discussions afterwards with foreign bodies/Liaisons about patient's entitlement.

3.1.8 Industry

In the health care sector, to be restricted to the administrative domain, the industry is a main player, both for health care providers, health insurance organizations, National Liaisons and the European Commission. Translated in terms of NETC@RDS service portfolio, the industry plays a main role in the following domains:

- Citizen/patient identification
- Front office systems HCP's
- Back office systems (both HCP's and HIO's)
- Data exchange

In these domains, the industry plays various roles, like research, development, standardization, maintenance, service provider, portal hosting, etc. Up to now, the involvement of the Industry in the NETC@RDS project is focused on card identification and data retrieval from cards. The industry is not involved as service supplier and/or software publisher.

Software publishers are supposed to be involved at national/regional level, since the integration of the NETC@RDS services depends on the specific national/regional situation.

3.2 Stakeholders needs, related to NETC@RDS' current and future service proposition

The stakeholders' needs as shown in the previous paragraphs demonstrate, that there is a clear stakeholders' demand on online related services, that support various needs and requirements. Those needs from various stakeholders are summarized in the picture below.

Picture 4

Stakeholders' needs, related to NETC@RDS' service proposition										
	Stakeholder →	EC	EP	Ecit	HCP	HIO	HIFI	Lias	Ind	
Needs ↓	Service contribution									
Safe health care across Europe	- HCP authentication - Safe access to medical file - Messaging home physician	Covered by epSOS, STORK and HPRO								R
Various health care systems to be connected	- Domestic user interface - Secure access/privacy reg. - Web services based data exchange - Standards (WSDL) - EESSI compliant	NC (1)	NC (1)		NC (1)	NC (1)	EESSI	EESSI		R
Procedures for foreign patient identical to domestic ones	- International service to be integrated in domestic infrastructure - Enabling domestic procedures and standards				NC (2)	NC (2)	NC (2)			R
Efficient invoicing and timely payment	- National level: invoicing for foreigners according to domestic procedures				NC (2)		NC (2)			R
	- Planned care: both direct and indirect billing - Conversion into SED				NC (3)	NC (3)				R
Cost effective identification and procedures and no fraud	- Online verification of entitlement based on various token, resulting in an eApproval (EHIC dataset)		NC (1)	NC (1)	NC (1)	NC (1)	NC (3)			R
	- Off line EHIC validation, resulting in EHIC dataset and a provisional certificate		NC		NC		NC			R
	- Data capture and forwarding EHIC dataset based on various portable documents		NC (1)	NC (1)	NC (1)	NC (1)	NC (1)			R

The industry has been added, because of its potential interest in a business model. The 'R' is to be read as: "of Relevance"

Legend:

EC = European Commission
 EP = European Projects
 Ecit = European Citizen
 HCP = Health Care provider

HIO = Health Insurance organization
 HIFI = Health Insurance Organization, in charge with Foreign Invoicing
 Lias = Liaison body
 Ind = Industry



Gaps between stakeholders' needs and current NETC@RDS' service provision.

In the picture above it is demonstrated, that the NETC@RDS service portfolio (marked with NC) has the potency to contribute substantially to stakeholders' needs.

Some of the services out of the NETC@RDS service portfolio are currently already provided satisfactorily. These services are marked with NC. Other services, currently provided have to be improved. They are marked with (1). The services marked with (2) are only implemented on a customized way by one or some NETC@RDS partners, and still have to be developed and implemented by others. Finally some services are not at all in place yet, but fit within NETC@RDS scope and competences and still have to be developed. Those services are marked with (3).

Those services, that contribute substantially to cost reduction/cost savings and efficiency benefits will be most promising to develop with priority in a self sustainable model, because it is to be expected, that for these services, stakeholders are willing to pay for.

Although out of the scope of NETC@RDS, the domains narrowly related to NETC@RDS are also referred to. Most of these services have a qualitative focus and contribute to safe health care, like access to medical patient files and the continuity of care.

The cells concerning Industry are marked with an "R", meaning "of Relevance".

4. NETC@RDS' business cases

The stakeholders analyses demonstrate that stakeholders' needs and NETC@RDS' opportunities are focused in particular on reduction of costs, improvement of efficiency and improvement of data quality. These are the main drivers, potential NETC@RDS' business cases have to be justified on.

The NETC@RDS' service portfolio¹⁰ is potentially able to contribute substantially to cost reduction, improvement of efficiency and data quality for both HCP's, HIO's and HIFI's. To EU citizens the NETC@RDS service portfolio will contribute to a significant higher service level, and to a really experienced "European feeling".

In the next paragraphs, possible business cases are addressed. Moreover the stakeholders, to be expected as beneficiary from the service, are addressed. If possible, an estimation is made of the potential benefits in terms of Euro's.

4.1 Business case 1: Reduction of costs

This business case focuses on potential cost savings concerning the out of pocket costs for issuing EHIC's. These benefits only can be achieved if the EC and its Member States would allow to replace the EHIC by other portable documents, providing access to foreign health care. Alternatively Member States might bilaterally agree upon this.

The future online entitlement verification will enable various portable documents to be used as key, providing access to patient's administrative files. Apart from the EHIC, patient's nHIC, Social Security Cards and national ID card are most likely to be used as portable document in this context. As a result of a positive verification, a digital approval (eApproval) (preferably in a European accepted format like an SED) will be provided in real time to both the HCP and the HIFI.

If the EC and its Member States would allow to replace the EHIC by already applied and generally accepted portable documents, the HIO's would benefit substantially in terms of costs. The costs for issuing one EHIC range between € 1,00 and € 5,00¹¹, Most HIO's issue the card with a validity period of one year. In 2009 in Europe almost 190 mln EHIC's¹² are in circulation, representing only 36,8% of the European population. A very conventional calculation results into cost savings, amounting to € 200.000.000,00 a year on European level.

4.2 Business case 2: Efficiency improvement

This business case focuses on efficiency improvement (time savings) as a result of applying the NETC@RDS service portfolio.

Main beneficiaries of efficiency improvement will be the Health Care Providers, the Health Insurance organizations (HIO's) and the Health Insurance Organization, charged with the settlement of foreign invoicing (HIFI's).

The NETC@RDS services are foreseen to be integrated into domestic health infrastructures of each Member State. That means, that the HCP can use his familiar domestic user interface

¹⁰ See picture 1 in paragraph 2.3 in this report

¹¹ Source: Inventory amongst NETC@RDS partners, spring 2010

¹² Source: paper EC, published July 1th 2010

(national portal), according to domestic patients. Moreover the HCP is able to integrate the foreign patient's data in his own back office.

This will save HCP's time, in case of patient's intake, verification of entitlement, update patient's file and invoicing.

On an annual basis approximately 5,4 mln EU citizens¹³ apply for health care abroad.

Currently automatic data capture is running for EHIC and nHIC. In a later stage it is likely that also national ID cards could be read automatically. As a result of a positive verification, an (EHIC) dataset will be provided to both the HCP and the HIFI. This EHIC dataset, to be considered as an eApproval, can automatically be uploaded in HCP's and HIFI's back-offices and enables HCP's to invoice digitally for foreigners. By matching both files (EHIC dataset and Invoice dataset), the HIFI can process an E125/SED, enabling international EESSI invoicing. Extrapolating figures from the Dutch Liaison on a European level, annually about 800.000 EHIC-related E125 are to be established, often produced manually. Moreover most of these documents are forwarded between various parties by post. Possible time savings are to be amounted to € 7.000.000,00¹⁴ on European level.

Nowadays a no show of the EHIC often results in a patient's call from abroad for a Provisional Replacement Certificate (PRC). In case other portable documents could be applied as well, there is no longer need for the patient to call for a paper based PRC. In 2009, more than 2.5 mln¹⁵ times, EU citizens applied for such a certificate. The benefits are to be amounted to € 22.000.000,00¹⁶ a year on European level.

In case the patient doesn't apply for a PRC, he will have to pay cash at the point of care and next he will apply for reimbursement. Extrapolating Dutch figures annually about 12.500.000 EU citizens might apply for reimbursement, submitting 22.600.000 paper based invoices from a EU/EEA Member State. Assuming that the Netherlands are representative for Europe, on European level clerical costs for settling this invoices might be estimated to an amount of € 75.000.000,00. These costs could potentially be saved.

The above calculated figures just concern emergency care. Since the services can be applied for planned care as well, the benefits even might increase.

4.3 Business case 3: Reduction of fraud and cost containment

This business case focuses on reduction of fraud and preventing from extra costs for health care. This last category implies HCP's applying private tariffs for those patients, who are not able to show the EHIC. Apart from extra costs, private tariffs are a main source of dissatisfaction of patients, discussing their not fully compensated reimbursement afterwards with their HIO. This dissatisfaction often results in leaving the HIO and replace it for another one.

In this business case the NETC@RDS online entitlement service will contribute to fraud reduction and cost containment. In particular this service is beneficial, if a national ID card or a

¹³ Source: Ten4Health market analyses report D3.2 March 2008.

¹⁴ Calculated as 15 minutes time saving per EHIC related E125 * € 35,00 (clerk's hour rate)

¹⁵ Source: paper EC, published July 1th 2010

¹⁶ Calculated as 15 minutes time savings for issuing a PRC * € 35,00 (clerk's hour rate)



nHIC (that can be authenticated) would be applied. With these types of portable documents, the patient authentication is to be safeguarded better, rather than the EHIC.

Main beneficiaries of these services are HIO's. Moreover the EU citizen will benefit, since he will no longer be faced with private tariffs.

At the moment the EHIC serves as an offline proof of entitlement. Moreover the EHIC provides no information to authenticate the patient. This means that an EHIC could easily be (mis)used by someone who is not entitled and/or not the owner of the card. Moreover an EHIC could no longer be actually valid, although the end date is not (yet) expired.

In particular HIO's that provide EHIC's for a longer period of time run extra risk. Out of the NETC@RDS service portfolio, the online entitlement verification will contribute to both fraud reduction and to a better allocation of health costs to the appropriate HIO.

Unfortunately in Europe no figures are available concerning possible loss of money as a result of misusing the EHIC. Most of the misuse will not be noticed by HIO's and not be recovered by the misusing patient.

4.4 Business case 4: Quality improvement

This business case focuses on quality improvement in terms of quality of data and quality of service to be provided to the EU citizen.

The improvement of data- and service will be experienced in particular by the EU citizen, his HCP and the HIO's and HIFI's.

Quality improvement is difficult to translate into financial benefits. In this context the qualitative benefits are considered as an additional satisfier, contributed by the NETC@RDS service portfolio, for both the HCP, the EU citizen, the HIO and the HIFI.

A part of the benefits only can be achieved, provided that the EC and its Member States would allow other portable documents to be accepted as access key for health care deliverance.

The feature to integrate the NETC@RDS service into the domestic health infrastructure will be experienced by the HCP as a substantial improvement, enabling him to apply administrative procedures and standards for foreigners, similar to his domestic patients.

Apart from the EHIC and nHIC it is the aim to support automatic data capture for other portable documents like Social Security Cards and/or national ID cards. Acceptance of portable documents, being used already on domestic level will be experienced by the EU citizens as a substantial service improvement. No longer they will have to apply for a separate card.

4.5 Who is willing to pay for the NETC@RDS serviceportfolio

In the previous paragraphs is demonstrated that there are four clear business cases for the NETC@RDS service portfolio.

The business cases 1 and 2, that contribute to reduction of costs and improvement of efficiency (cost- and time savings) are the most promising. However the question has to be

answered, who captures the benefits and who is willing to pay (the costs) for these services. Apart from the question who is willing to pay, the question is relevant, whether the service will be adopted and used by the intended users. These questions will be answered in the next paragraphs.

HIO's and HIFI's

It is likely, that the HIO's and HIFI's will be able to translate the potential benefits of the NETC@RDS service portfolio, as elaborated in the four business cases, into clear cost- and time savings and are willing to pay for the service. Apart from cost driven considerations, service driven considerations will be taken into account, in particular in competitive markets, in which HIO's have to distinguish from their competitors. The reasoning why HIO's and HIFI's will be willing to pay for the NETC@RDS service portfolio can be summarized as follows:

Picture 5

HIO's will be willing to pay for international services				
		Party	Prepared to pay:	
				Why
Needs	NC contribution			
Safe health care across Europe	- HCP authentication - Safe, secure access to medical files - Messaging home physician		no	Out of NETC@RDS' scope
Various health care systems to be connected	- Domestic user interface - Secure access/meeting privacy regulations - Web service based data exchange - Standards (WSDL) - EESSI compliant	HIO	yes	On domestic level infrastructural costs are already covered. Only marginal costs have to be borne for international services
Procedures for foreign patient identical to domestic ones	- International services to be integrated in domestic architecture - Enabling domestic procedures and standards	HIO	maybe	Business cases 1, 2 and 4
Efficient invoicing and timely payment	- National level invoicing according to domestic procedures	HIFI	yes	Business case 2
	- Planned care: both direct and indirect billing	HIO	yes	Business cases 2 and 4
	- Conversion domestic standard into SED	HIO	yes	Business case 2
Cost effective identification and procedures and no fraud	- Online verification of entitlement, based on various portable documents, resulting in a eApproval (EHIC dataset)	HIO	yes	Business case 1, 3 and 4
	- Offline card validation, resulting in an EHIC dataset (provisionary certificate)	HIFI	yes	Business case 2
	- Data capture, and forwarding EHC dataset based on various portable documents	HIO	no	Business cases 1, 2 and 4

The HCP's

Although HCP's will substantially benefit from the NETC@RDS service portfolio, as demonstrated in the four business cases, it is not likely, that they are willing to be charged for administrative services. They take efficient and cost effective procedures and infrastructures for granted and will address the responsibility for these issues to national authorities and/or HIO's. On the other hand, it is to be expected, that they will consider to invest (on a local level) in those cases, where the NETC@RDS service contributes to the efficiency of their internal process.

In particular investments in automatic data capture devices could contribute to an efficient administrative intake of a foreign patient. Depending on the numbers of foreign patients and/or the possibility to use automatic data capture for domestic patients, the HCP will consider to invest himself in card devices.

Moreover these considerations will apply for integrating international services into his HCP information system. In the region Lombardia it is demonstrated, that the integration enables the HCP to apply domestic procedures and standards for online access to a domestic portal, updating his back-office and eBilling, similar to domestic procedures.

It is likely that HCP's might develop some pressure on local Industry (system integrators and software publishers) to provide features in their health care providers' information systems enabling to integrate the NETC@RDS service portfolio.

The reasoning why HCP's are willing to use the service can be summarized as follows:

Picture 6

		Party	Prepared to use	
			use	Under what conditions
Needs	NC contribution			
Safe health care across Europe	- HCP authentication - Safe, secure access to medical files - Messaging home physician	HCP	yes	Out of NETC@RDS scope
Various health care systems to be connected	- Domestic user interface - Secure access/meeting privacy regulations - Web services based data exchange - Standards (WSDL) - EESS1 compliant	HCP	yes	If the service is reliable, safe and integrated in domestic infrastructure
Procedures for foreign patient identical to domestic ones	- International service to be integrated in domestic infrastructure - Enabling domestic procedures and standards	HCP	yes	Business cases 1, 2 and 4
Efficient invoicing and timely payment	- National level invoicing according to domestic procedures	HCP	yes	Business case 2 and 4
	- Planned care: both direct and indirect billing	HCP	yes	Business cases 2 and 4
	- Conversion domestic standard into SED	HCP	yes	Business cases 2 and 4
Cost effective identification and procedures and no fraud	- Online verification of entitlement, based on various portable documents, resulting in a eApproval (EHC dataset)	HCP	yes	Business cases 1, 2 and 4
	- Offline card validation, resulting in an EHC dataset (provisionary certificate)	HCP	yes	Business case 2
	- Data capture, and forwarding EHC dataset based on various portable documents	HCP	yes	Business cases 1, 2 and 4

EU citizen

Although the EU citizen will possibly benefit most from the NETC@RDS service portfolio, he is not a subject to be charged for international services.

4.6 Justification and feasibility of the business cases: a domestic challenge

In the previous paragraphs four promising business cases are demonstrated. It is the aim of the Consortium that most of the current NETC@RDS partners will join the self sustainable business model. However that is not a matter of course.

Which stakeholder will benefit and to what extent depends on both internal factors, possibly to be influenced by each individual partner, and on external factors, not to be influenced by an individual partner. Moreover the decision making process, whether to join or not, depends on the specific decision making structure in the individual Member States and/or regions. Possibly final decision making might not belong to the competences of the current NETC@RDS partner. In other words, whether a business cases will be feasible for a certain Member State and can be justified depends on various factors, to be distinguished between internal- and external factors.

Internal factors

Internal factors refer to each partner's domestic situation and might vary substantially per Member State or region.

On the national level (country A) the costs and potential benefits to be calculated depend on:

- the domestic health scheme

- the domestic health infrastructure, and the way- and to what level infrastructural costs have already been covered. Moreover the way it is financed is of interest.
- to what level HCP's are connected to the health infrastructure and have access to online/real time services,
- whether HIO's back offices are connected to the health infrastructure and can be accessed real time
- the national bodies, involved in foreign health affairs
- domestic procedures and standards
- whether nHIC are being applied or not
- the way and frequency EHIC's are being distributed

Apart from the starting position of each Member State, the decision making competencies and structure will be a crucial factor for the final decision whether to join the self sustainable business model or not.

Possible risks concerning current partners' competencies:

- The current NETC@RDS partner is not competent to decide whether to join the self sustainable business model
- The current NETC@RDS partner is not able to join the legal body on behalf of other national stakeholders
- The current partner is not able for legal reasons to join a foreign legal body at all
- The current partner is not able to pay a contribution for central costs as out of pocket costs
- National stakeholders in country A are solely focussing on EESSI, rather than continuing international services via the self sustainable business model.

Apart from internal factors, external factors are to be considered. These factors are not to be influenced by each individual partner. In case these factors might influence the potential benefits, the dependencies and risks concerned have to be estimated and balanced by each individual partner himself.

External factors

External factors both concern the infrastructural situation in fellow Member States (Country B) and factors on "political" level.

The potential benefits to be calculated by stakeholders from country A, for their citizens applying for health care in country B, depend on the pre conditions of country B, like there are:

- the availability of a health infrastructure enabling online services
- to what level HCP's are covered- and connected to a health infrastructure in that particular Member State
- the preparedness of the HCP's to make use of online services
- the preparedness of the HCP's to accept the EHIC and its substitutes like nHIC's
- the preparedness of country B's Liaisons to accept the captured (offline) or retrieved (online) EHIC dataset, as a formal certificate according to the currently applied Provisional Replacement Certificate
- a positive decision concerning joining the future business model, from neighbour country B, in case this country generates a substantial number of cross border transactions for country A

Political risks

In particular business case 1 (costs savings by EHIC substitutes) depends on the political willingness, to accept other ID cards as an EHIC substitute.

The political dependencies have to be balanced by each individual partner and to be taken into consideration, calculating the business cases.

The following political risks are being distinguished:

- The EC/Member States is/are not willing to accept other portable documents as an access key to verify online patient's entitlement, apart from the EHIC
- The EC/Member States is/are not willing to introduce online verification based on the EHIC and to allow refusal of EHIC's that appear no longer valid
- Member States and/or national Liaisons is/are not willing to accept NETC@RDS PDF and/or EHIC dataset, as a result of online entitlement verification as PRC

Since each Member State has a different starting position, the justification of each of the NETC@RDS business cases has to be done per Member State individually. On the national level (country A) each Member State is capable to figure out its own costs- and benefits. On the international level however, each Member State has to balance its external dependencies and has to make its own estimation whether the possible benefits, as described in the business cases, are achievable and to what extend.

5 The future business model

This chapter elaborates the business model, to be interpreted as the rational of how the future self sustainable organization creates, delivers and captures value.

In the framework of NETC@RDS it is the challenge, to (let) provide an international service, on a national level in the (financial) interest of stakeholders in various Member States, acting in various health schemes. The costs for supplying international services, have to be covered both on a domestic and on a central level.

5.1 How the business model looks like

The NETC@RDS serviceportfolio (to be) provided, is not new and/or unique. The current NETC@RDS service and most of the services to be developed are already being provided in most Member States in a daily routine on a national level: patients are being identified, entitlement is checked online, approvals for treatment are given digitally and treatments are being invoiced digitally. HCP information systems provide integrated features for updating patient files and exchanging data with other HCP's and/or HIO's in an interoperable way.

On a national level, funding of these services are justified, based on huge numbers of transactions¹⁷ and cost savings as a result of substituting paper based documents by digital ones. Depending on the domestic health care system, costs are covered on a public- or private level.

Apart from finding a justification of a business case on a national level, the challenge is, how to organize an international service concept that meets international market requirements and that can be financed in a proper- and self sustainable way.

5.2 Assumptions and starting points

As stated before, the current- and most of the international services still to be developed, are already being supplied on various national levels for domestic purposes. Since Health Care is- and will remain the prerogative of each individual Member State it is not to be expected that in the near future a lot of initiatives will be taken by the EC, aiming at convergence between the various health systems. This means, that aiming at providing cross border services, one has to take into account, that the Health Care Systems and its organization might differ substantially between Member States. From that point of view it is a matter of course, that international services have to be provided by a Local Service Supplier. Support, adoption, implementation etc. depend on the local national situation, and only local players have knowledge of their market and will be able to make that happen.

Based on the previous findings, the design of the business model will be based on the following assumptions and starting points:

On a national level:

- A body or institution is in place, acting as a contract partner (CP) on central level, and mandated to represent (the stakeholders of) its country or region,
- Online services for domestic purposes are already being supplied, by a service

¹⁷ In the Netherlands (16,5 mln inhabitants) for domestic purposes yearly 660.000.000 transactions are executed with respect to online entitlement verification

- supplier (to be mentioned as "local supplier" - LS). This LS could be the same institution as the contract partner, but not necessarily,
- National situations vary substantially from each other. This implies, that on the national level only local players are able to justify their business case for international services,
- Each Member State applies domestically national infrastructures, procedures and standards, both for domestic and for foreign patients,
- Since Member State A depends for the most part on Member State B to achieve its potential benefits from the online international services, a substantial number of Member States should have the disposal of an infrastructure, enabling HCP's and HIO's to exchange data online. So a certain minimum level of Member States being equipped properly is a prerequisite. Moreover those Member States should commit themselves in terms of at least a minimum level of "coverage" of HCP's and HIO's being connected to this infrastructure. Member States, that don't have the disposal yet of a proper infrastructure, should play an active role to encourage the aimed situation. Possibly the EC could be of help, taken into account their interest in safeguarding safe health care accross Europe,
- Front office design (HCP, connected with national service provider and/or HIO's) is a national responsibility (possibly to be supported centrally as far as it concerns standards for card reading),
- The local supplier will act as a black box for domestic HCP's, and will provide them access to international services, preferably by using their domestic user interface,
- Safe and secure access to the national portal, applying international services, is a national responsibility,
- The local supplier complies to the NETC@RDS security policy (ISSP),
- The local supplier complies to the WSDL standards as agreed on, on central level,
- The privacy regulations of the country of origin have to be respected by the country of stay, in case a foreign patient is to be identified,
- The infrastructural access to international services is a national choice (also in line with the EESSI philosophy). In other words a local supplier might connect directly (portal to portal) or indirectly (e.g. via a National Access Point) with foreign service suppliers,
- The finance model of international services, offered to domestic HCP's and HIO's is a national responsibility of local parties (who; how; tariffs etc.).

On a central level:

- The international (NETC@RDS) service portfolio is being designed, standardized and coordinated on a central level (to be mentioned as "central coordination body" CCB),
- Each country/region is represented by one contract partner (CP)
- Contract partners together form a client community of the CCB. In case the contract partner is not the same institution than the LS, the CP might delegate the LS in that client community,
- Cross border data exchange is web service based. As a consequence no central IT development will be necessary, rather than setting- and maintaining standards for data capturing and messaging.
- Cross border portal to portal communication (or later possibly routed via (EESSI/NAP's) is based on secure data exchange. The security conditions, to be met by the Local Suppliers, are set centrally,
- The costs made on a central level concerning the international services, are being financed by the contract partners

5.3 The contract partner (CP)

Each country or autonomous region is represented by one contract partner in the Central Coordination Body. This contract partner commits (the stakeholders of) his country/region towards the CCB. Moreover this contract party should be able in his country to realize the objectives of the CCB and to meet his obligations, as agreed on in the contract. Moreover the CP is responsible for financing his share in the central costs.

The profile of the contract partner could look like this:

- an organization, that has a strong position regarding to the design of national processes and data flows in the health care sector in his country,
- an organization, that is able to influence decision making of both HCP's and HIO's,
- an organization, that has a (commercial) interest in launching cross border services in his country,
- an organization, that may accelerate full coverage of both HCP's and HIO's of the national Health Infrastructure,
- an organization that could represent its domestic stakeholders.

Moreover the CP should have a main interest to play that role, and to involve his country, together with its HCP and HIO's in an international service concept.

Possibly the contract partner is identical to the Local Supplier, but umbrella organizations, acting on behalf of HIO's and/or public bodies, executing the national health care system are likely as well.

5.4 The local supplier (LS)

The Local Supplier is supposed to provide (develop/maintain) the international online services on a national level. Possibly the LS already hosts a national portal (as its core business). The LS has to meet the ISSP and the WSDL standards, agreed on. In case the LS is not identical to the contract partner, the LS will be sub-contracted by the CP. In that case the CP will remain accountable for the LS.

Those countries/regions, that are not able or willing to act as a local supplier could consider to outsource this task. Potentially existing NETC@RDS partners¹⁸ and/or the Industry might be available for that job.

5.5 The central coordination body (CCB)

The central coordination body has to create international pre-conditions, to enable local suppliers to exchange cross border data in an interoperable and standardized way. Moreover the CCB will keep watch that European regulations, standards and initiatives will be taken into account and respected. In particular alignment with EESSI will be a main task. Moreover security- and privacy issues will be coordinated on central level. Last but not least, on a central level alignment takes places with Industry aiming at standardization and integration of international services in HCP's and HIO's information systems.

¹⁸ The Austrian partner HVOS and the Dutch partner VECOZO are willing, under conditions, to host a portal for a fellow member state or region

5.6 Legal body

The Central Coordination Body will be accommodated in a legal body, to be set up by the contract partners.

To execute the tasks on central level, CP's could provide resources, to be placed on detachment to the legal body. Alternatively resources could be hired externally.

Based on an annual workplan, activities are addressed and the central cost budget is set and approved by the CP's. In case the budget is overspent, the CP's are responsible to cover the deficit. The CP's commit themselves to the legal body for a minimum period of time.

The CP's (or their delegates) together form a client community, that is responsible for final decision making. The CCB's staff takes care for the workplan, the budget, the meetings, and is responsible for the daily management and the realization of the workplan within the framework of the budget. Moreover the staff represents the legal body with respect to third parties.

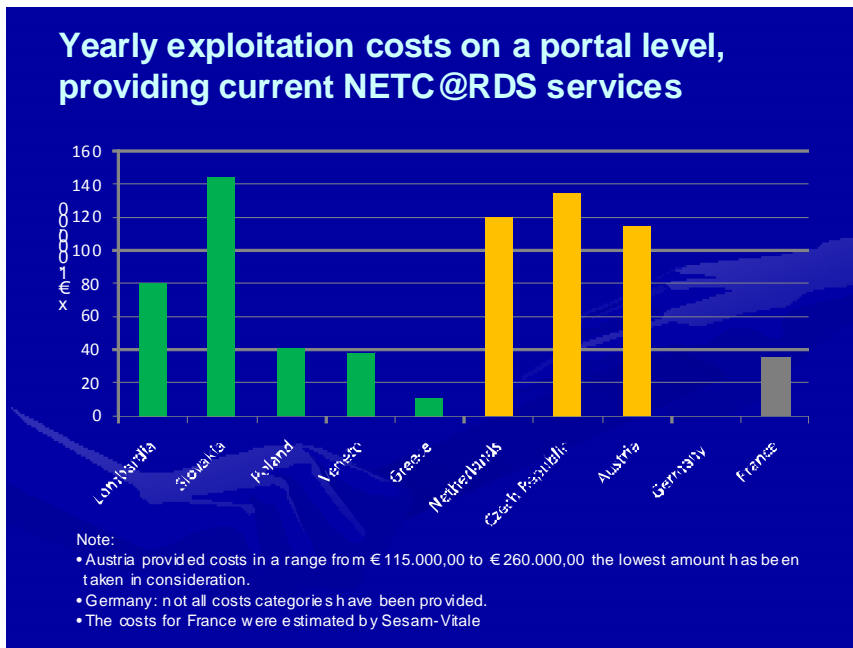
6. Cost- and finance model

This chapter addresses the costs on both national and central level for providing the service portfolio as defined in paragraph 2.3. Moreover the question how these cost will be covered is answered. The chapter ends with a break-even-point (BEP) analyses, to be used to calculate the turning point, indicating the minum number of paper based transactions to be substituted by digital ones.

6.1 Local costs

To supply international services in each country or region, additional costs will be made. However the starting position¹⁹ of each Member State varies substantially and as a consequence the local costs per country/region will vary. In order to get some insight in the costs per country/region, we asked our NETC@RDS partners to provide relevant figures. The outcomes of this questionnaire are depicted as follows:

Picture 7



In this questionnaire, the following costs-categories were addressed by the NETC@RDS partners for providing the NETC@RDS service in their own country/region:

- ISSP certification (compliance with NETC@RDS security policy)
- Back office connection interface (NETC@RDS vs. HIO's back offices)
- Infrastructural costs
- Technical support
- Customer support
- Management, coordination and overheads

¹⁹ An inventory (November 30th 2010) was made under current NETC@RDS partners to get insight in each individual starting position

Despite of the quality and the reliability of the figures this exercise demonstrates, that it is within a certain level of uncertainties, possible to calculate the costs on local level. Based on the input, provided by NETC@RDS partners, and leaving from a cautious calculation approach, on the local level costs amount to € 140.000,00 a year at most. It has to be stipulated, that these costs were based on the currently provided service portfolio. Taking into account, that the current services have to be optimized and extended, an amount of € 200.000,00 for local costs might be appropriate for calculation purposes in this respect.

Apart from these costs, costs on the central level have to be taken into consideration.

6.2 Assumptions for calculating central costs

The central cost calculation is based on the following assumptions:

- Each country/region hosts its own domestic portal and bears these costs for own account
- The data exchange is web service based. This implies that no central software development takes place, apart from developing and maintaining standards, to be implemented on a domestic level by each individual partner.
- On a central level a legal body will act on behalf of the partners, that join the Central Coordination Body (CCB),
- Central costs will be charged to/by this legal body, to be allocated according to a certain key to the partners, joining the CBB,
- Portal client/server certificates on a national/regional level are being managed and provided centrally,
- On a (semi) permanent basis, some people are working for- and by order of this legal body. Those people could be hired externally from industry or on detachment by one (or more) partners. Those people are cooperating closely and are working preferably from one central housing,
- Main tasks to be executed/coordinated centrally on a permanent basis are:
 - . Watching new (international) developments/business needs on a strategic level concerning cross border data exchange (aiming at service development)
 - . Watching Regulation issues/EU policies/EESSI, European projects, etc.
 - . Bring-in new partners (PR/marketing/communications/conferences/symposia)
 - . Relation management with EC/Industry/EU project partners
 - . Handling and control contractual issues
 - . Preparing/organizing member/customer meetings/financial issues/minutes
 - . Handling and control of Country/Region Certification issues/ISSP coordination
 - . WSDL development/maintenance/control/guidelines/manuals/alignment with standardisation organizations/alignment with a technical workgroup/providing (technical) support to partners.
 - . Maintenance of the central website
- For the previously mentioned tasks, Fte's are estimated, preferably to be covered in a way that the continuity is safeguarded. People should be skilled as a Senior Business Consultant, a Lawyer with ICT skills and someone with secretary/financial skills.
- Occasionally external expertise has to be hired in case of specific issues
- The annual costs will be allocated according to a key, to be agreed on by the Contract Partners, joining the CCB. These costs will be prepaid annually.
- The once-only costs, referring to set up the legal body etc. will be pre paid by the participating partners as entrance fee. Moreover an initial amount per partner should be taken into consideration, to be paid once as working capital for the central

organization.

6.3 Estimation of central costs

Up to now the NETC@RDS Consortium has any experience with a centrally directed organization. A comparable model on European scale isn't available either. Against that background the Consortium decided to elaborate two calculation tables, both based on the same assumptions, as been made in paragraph 6.2.

The first table is based on a pessimistic scenario in terms of manpower needed and central costs, the second table is based on a more optimistic scenario.

Depending on partner's profile and view, it is up to each interested partner, whether he wants to balance his business case(s) on an optimistic- or more pessimistic calculation of central costs²⁰.

Another uncertainty, that has to be estimated by each individual partner, is the number of potential partners, willing to join the legal body. For that purpose the tables below distinguish three ranges of numbers of possibly participating partners. According to these ranges, the central costs are allocated equally to that number of partners, assumed to participate.

Pessimistic calculation

The pessimistic calculation is based on the highest cost level. For manpower 2,5 Fte's are calculated and commercial tariffs are being applied (based on Dutch cost level). Reason for that is, that in case partners are not able to detach (properly skilled) manpower timely, setting up and starting the activities in the legal body will not be delayed and skilled people could be hired directly.

Cost category	Tariff	Total amount	Cost per partner, assuming the participation of:		
			5 partners	10 partners	15 partners
2,5 Fte's ²¹	€ 800,00/day	€ 420.000	€ 84.000	€ 42.000	€ 28.000
Overheads, covering - housing - office supplies - travel expenses	25%	€ 105.000	€ 21.000	€ 10.500	€ 7.000
VAT	20%	€ 84.000	€ 16.800	€ 8.400	€ 5.600
Consultancy budget		€ 35.000	€ 7.000	€ 3.500	€ 2.500
PR Budget		€ 30.000	€ 6.000	€ 3.000	€ 2.000
Country/regional certificate	€ 1.200,00	PM	€ 1.200	€ 1.200	€ 1.200
Total annual costs on central level to be covered by		€674.000 (excl. certificates)	€136.000 (incl. certificates)	€ 68.600 (incl. certificates)	€ 46.300 (incl. certificates)

²⁰ The central costs will be yearly put to the participating partners, based on a budget. This budget has to be approved yearly by the partners, so partners keep in control of the central cost level.

²¹ 1Fte is calculated based on 210 days/year.

partners					
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Optimistic calculation

This cost estimation is based on a lower cost level. For manpower, a daily rate of € 500,00 has been applied, based on detachment of manpower by one, or more of our partners. Moreover it is assumed, that central tasks can be executed with 210 mandays a year (1 Fte), to be divided into various people, with the necessary skills.

Cost category	Tariff	Total amount	Cost per partner, assuming the participation of:		
			5 partners	10 partners	15 partners
1,0 Fte's	€ 500,00/day	€ 105.000	€ 21.000	€ 10.500	€ 7.000
Overheads, covering - housing - office supplies - travel expenses		€ 32.000	€ 6.400	€ 3.200	€ 2.100
VAT	20%	PM			
Consultancy budget		PM			
PR Budget		€ 30.000	€ 6.000	€ 3.000	€ 2.000
Country/regional certificate	€ 1.200,00	PM	€ 1.200	€ 1.200	€ 1.200
Total annual costs on central level to be covered by partners		€ 167.000 (excl. certificates)	€ 34.600 (incl. certificates)	€ 17.900 (incl. certificates)	€ 12.300 (incl. certificates)

6.4 Cost allocation

The central costs will be allocated to each contract partner. Since the costs on the central level don't depend on the "size" of the partner's country/region, it is most likely and justifiable that central costs will be allocated as a fixed amount per contract partner a year.

According to the pessimistic table the central costs to be allocated range between € 136.000,00 in case of 5 participating contractpartners (Local Suppliers) to € 46.300,00 in case 15 partners would join.

Applying the optimistic table the central costs to be allocated range between € 34.600,00 in case of 5 contractpartners (Local Suppliers) to € 12.300,00 in case 15 partners would join.

Based on the optimistic scenario, with 5 participating partners (€ 34.600,00), and a local cost level of € 200.000,00 as estimated on an average (see paragraph 6.1), the total costs to be covered for that particular contract partner amount annually to € 235.000,00 (round off).

For that amount of money the contract partner has to be financed and covered by its domestic stakeholders.

6.5 Finance model

As stated in paragraph 6.4 both the costs on national and central level have to be covered and financed.

The central level

Contract partners' ²² contribution in the central costs is based on a share of the annual budget, agreed on. Since it is unlikely that the costs for the central activities correlate with countries' size, an equal contribution per CP is to be considered. Possibly the legal body might distinguish between partner categories. In that case, the contribution might vary per category.

Contract partners should have a financial interest to take care for maximum coverage (of HCP's having access to online services, and HIO's repositories to be accessible online/real time) in its Member State. The more online coverage, the more more paper based transactions can be substituted by digital ones and the better the Business Cases can be justified.

This means, that CP's should commit to a minimum level of coverage in their country at the start. Moreover stepwise the coverage (of both HCP's and HIO's) should grow within a certain period of time towards 100%. This could be agreed on in a Service level Agreement (SLA). Possibly partner's contribution in the central costs could be correlated to the extend that the SLA 's are met.

Apart from partner's contribution, other financial resources could be obtained from:

- entrance fees for new partners, joining the legal body
- (European) funding (calls for proposal, etc.)
- consultancy/advisory services

The local level

²² It is assumed, that the Local Supplier is signing partner. If not, the signing partner will be charged and he has to recharge the Local Supplier

Both the central- and the local costs have to be charged and financially recovered on local/national level.

In a market driven and private health insurance system, the local supplier agrees a tariff with his domestic clients, likely to be HIO's and HIFI's. This tariff covers both the costs on national level for enabling access to international services, and for the central costs, charged by the CCB. It is up to the local supplier, how he calculates his tariffs.

In a public driven health system, the cost might not be recharged. In that case these costs have to be recovered in terms of cost- and time savings, reducing the general operational cost level in that Member State.

6.6 Break-even- point calculation

As stated before both costs and benefits depend strongly on each partner's domestic situation. That's why each partner has to calculate and demonstrate individually, whether the business cases are feasible and justifiable and at what level of transactions.

For that purpose a Break-Even-Point format has been developed, to be used by individual partners to figure out his specific turning point, indicating the number of paper based transactions, to be substituted by digital ones. The format has been provided to the current NETC@RDS partners, enabling them to use domestic figures and own assumptions and estimations concerning costs on the central level.

BEP Formula:

The break even point formula is defined as follows:

Total estimated costs per contract partner
 ----- X 1 transaction.
 Cost for settling manually a paper based transaction

The result is to be interpreted as the minimum number of manual transactions that ought to be substituted by digital ones, by using the international NETC@RDS services, in order to get the total costs covered. Each transaction that is substituted more, generates a net profit.

The Dutch case

Just as an example the BEP was calculated for the Dutch case.

Total estimated costs.

The Dutch partners amounted to total costs for providing the NETC@RDS service as follows:

-	Costs on a local level	€	120.000,00
-	Costs on a central level (based on the optimistic scenario with 5 participating partners)	€	34.600,00

	Total estimated costs (both local and central)	€	154.600,00

Costs for settling manually a paper based transaction:

The costs for settling a paper based transaction in the Netherlands is calculated as follows:

¼ manhour x € 35,00 (average clerk tariff incl overheads) = € 8,75

€ 154.600,00

BEP: ----- x 1 transaction = 17.700 transactions.
€ 8,75

Currently the Dutch transactions²³ concerning cross border health care on an annual basis are estimated as follows:

- about 40.000 citizens from "B countries" apply for health care in the Netherlands by showing their EHIC,
- about 25.000 EHIC-related claims are received from abroad via the Dutch Liaison,
- about 30.000 requests for Provisional Replacement Certificates are requested by Dutch insured from abroad via telephone call and/or fax,
- about 400.000 requests for reimbursement are submitted by Dutch insured, concerning cash payments for health care in EU member states.

Although for achieving most of the benefits, the Dutch (in general "Country A") depend on the facilities²⁴ of country B, in this case the Dutch partner is already able to justify the business case, based on the 40.000 transactions concerning foreign EU citizens, applying for health care in the Netherlands. For optimizing this process, the Dutch (country A) do not depend on any country B.

The Dutch case demonstrates that a high potency of benefits is potentially achievable. It depends on country B's (and on political decisions) how fast and to what extent all the potential benefits²⁵ can be cashed.

Critical succes factor

However, most critical succes factors for justifying the NETC@RDS business cases are the entrepreneurial attitude of the potential contract partner and its believe, that providing international services as elaborated in this Business Plan will be(come) profitable, both in terms of saving money and in terms of improving the quality of service, being provided to the citizens of each individual Member State and/or autonomous region.

²³ These transactions are exclusive of transactions concerning planned care, based on bilateral agreements.

²⁴ Facilities to be understood as a health infrastructure, to be in place; the coverage of HCP's, able to make use of online/real time services, the willingness of HCP's to accept various portable documents etc.

²⁵ In the Dutch case, the potential cost savings as a consequence of substitution of the EHIC, are not yet taken into account.