

Digital Business Ecosystem

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### **Deliverable D28.17: Regional Participation Guide**



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**Author:** Neil Rathbone  
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## About this document

This document is designed for regional actors and administrators who may be interested in, or are about to join, the Digital Business Ecosystem (DBE). It has been produced by the DBE Project, which is part of a cluster of European Union projects designed to progress Digital Ecosystems and embed them in European R&D and European regional economies.

It gives information, answers some basic questions, and provides a practical toolkit for participation. Wider information is contained on the DBE public web site:

<http://www.digital-ecosystem.org>

## Introduction

### ***What are Digital Ecosystems?***

Digital Ecosystems represent a major global change that is about to take place in the way that we use the Internet. Until now, the Internet evolved from what went before. It was used to connect computers together so they could communicate, but the computers remained largely self-contained. More recently, we have seen advanced technologies, like Web Services and Peer-to-Peer (P2P) networking, that are designed around the Internet and that change the role of the computer to make it less self-contained, and more part of a wider system.

However, today's advanced Internet technologies struggle with pre-Internet economic and business models. The next stage of the ICT revolution will be the creation of Digital Ecosystems, in which we use the Internet as an 'environment', a kind of shared and open common land, where users can interact in new ways, both with each other and with this environment: an environment based on structures and protocols that are as much about social and economic systems as they are about technology. This paradigm shift will change not only the technology, but will also impact the social and economic structure of users.

In parallel with real-world ecosystems, Digital Ecosystems are not centrally controlled or designed. Instead, protocols, functionalities and evolutionary algorithms emulate the natural laws of physics, chemistry, biology and sociology that drive natural ecosystems. These create all the possibilities, but do not pre-determine the exact species and behaviours that will evolve. The users create their own business models, define their own languages and behave according to their needs.

The DBE is the business part of the Digital Ecosystems revolution. In particular it seeks to strengthen the position of regions and Small and medium-sized Enterprises (SMEs) in the digital world. As well as ensuring that Europe keeps pace with this emerging technology, the DBE seeks to ensure that the maximum benefits are realised in a way that is fair and equitable to the whole of society.

## ***Why should my region be interested?***

Digital Business Ecosystems will have a massive impact on industry and commerce, and in particular on SMEs. It should be high on the agenda of every region's long-term economic development and ICT plans.

We have already seen how the Internet can enable SMEs to compete globally, while at the same time opening them up, sometimes unexpectedly, to face global competition. In many ways the DBE further amplifies this effect. The potential is there for an increased digital divide if regions do not take action. Conversely, there is an economic opportunity for regions to embrace the technology and the accompanying changes in business practice, and to lead their regional SMEs into a new era of potential prosperity.

While the DBE is an international effort, it is delivered at regional level. Starting with three regions that were involved from the beginning of the EU DBE Project in 2003, the participation has spread using formal participation methods such as 'Regional Catalysts' and 'Driver SMEs', to the point where it is the regions themselves that now drive the DBE.

For your region there is the possibility to set up your own DBE projects linked into the international effort that is developing and deploying the technology. From such links can come direct economic benefits, as well as a lead in ICT adoption and exploitation for your regional economy.

## ***What sort of regions can join the DBE?***

There are no rules as to what constitutes a region for DBE purposes, though sufficient resources will be needed for participation. Any locality with its own administrative function that has economic development plans, mechanisms, and infrastructure can make a proposal to formally join the DBE. While it was originally a European Union project, it is now a global initiative and regions have already joined from other continents.

As an open project, regions unable to make the commitment to join can still be formal Observer members of the DBE so that they are informed and can participate in some of its activities.

## ***What about costs and funding?***

Joining the DBE is free. However, Associate members are expected to become part of the DBE effort. This is achieved by carrying out your own programme of activity, which has been agreed with the DBE governing mechanism. Your actions are likely to have costs and your region must meet its own costs. There is no funding available from the DBE itself.

However, a number of funding sources are interested in Digital Ecosystems and may provide funding. Within Europe, the Structural Funds have a policy of complementing the R&D funding of the Framework Programmes that started the DBE Project. For example a DBE participation project could be included in Single Programming Documents for ERDF. Other European Programmes such as the Competitiveness and Innovation Programme (CIP) have strands that may support DBE adoption programmes. For regions outside Europe there may be funding available via multi-lateral agreements and programmes such as International Cooperation (INCO). More information on such

programmes can be found on 'Europa' at <http://europa.eu> specifically at <http://cordis.europa.eu> and [http://ec.europa.eu/grants/index\\_en.htm#policy](http://ec.europa.eu/grants/index_en.htm#policy)

It is expected that each formally participating region will secure some national or regional funding so that their programme of activities is secured in the medium term and the commitment of the region is demonstrated.

## **The joining process**

### ***Types of participation***

The DBE is free and open for participation. Any individual can use the DBE website and forums, either as a guest or a registered user, but there are two more formal levels of participation specifically for regions. These recognise a region's commitment to participate in DBE and are supported by the other committed participants.

#### **Observer**

Observer status is for regions that are interested in participating in DBE but are not yet ready to make a commitment. The only requirement for observer status is a formal communication from a legal entity that can claim to be a significant actor in regional economic or technological development indicating your wish to be granted observer status.

Observers are invited to participate in some meetings and are kept informed of developments in the DBE. Networking with other regions, both active participants and other observer regions is facilitated in order that you can gather information and perhaps make partnerships or alliances.

#### **Associate**

Associate status is reserved for regions that have made a commitment to undertake a programme of activities that are recognised by the DBE governing mechanism as contributing to the DBE.

There is no prescriptive formula for the type or size of programme undertaken and programmes could take many forms. An example would be a project involving dissemination and deployment of DBE within the region using the 'Driver' methodology. Another example would be research and technological projects that are linked to the DBE, or perhaps an ICT infrastructure or ICT adoption project that will be based on DBE technology. The important characteristic is that the region will build local knowledge of DBE and facilitate its use.

## ***How to join***

The toolkit that is part of this document contains forms for applying for Observer or Associate status. For Observer status, the application form accompanied by a letter or email from the requesting organisation is sufficient.

For Associate status the form has to be accompanied by a proposed Programme of Work detailing what actions the region will take to participate in the DBE. DBE actors and the governing body may visit your region and provide advice on how to structure the Programme and how to make your submission.

Depending on the nature of the region, the Programme of Work can take many forms. It must satisfy both your regional objectives and provide active participation so as to embed the DBE in the region. Activities that would typically be used are:

- Awareness seminars
- Education and training programmes (including Code camps)
- Technical input
- Scientific input
- Business and social science input
- DBE Community input
- ICT platform projects
- User group formation
- Links to existing projects with other economic aims
- Local implementation of DBE Catalyst-Driver methodology (see later)

## **Feasibility studies**

One starting point for involvement is to commission an expert feasibility study in order to relate local needs, plans and strategies to the DBE technology and to draw up a Programme of Work that is integrated into, or even part of, existing programmes. Relating the DBE and its benefits to the local economy and conditions is vital as the DBE is a tool for regional economic development rather than ICT functionality. Feasibility studies can be useful as part of regional economic planning and Structural Funding submissions.

## **Exploiting the DBE**

### ***Potential benefits***

The advantages of the DBE may not be immediately obvious to regions, and may be especially difficult for end-user SMEs to understand. A parallel is the development of the Internet from its inception in the 1960s to its explosion in the late 1990s. A fundamental ‘platform’ technology that



enables entirely new things to happen is, by definition, beyond the experience of the average person and the totality of it is often beyond their comprehension.

It is important that the organisation leading the region's DBE involvement (see regional Catalyst later) fully understands the potential benefits to the various economic actors and how to achieve those benefits locally, and communicates this in ways that will be meaningful to each individual actor.

The strategy and approach to exploitation and communication may be different in each region according to local needs, skills, infrastructure, etc. Put simply, the DBE means different things to different people, just like the Internet does. Like the Internet it is useless by itself. The DBE is a means to an end and requires populating with real-world functions and users before it can realise its potential. There is thus work to be done in:

- Translating the DBE into the local language, culture, and economic potentials
- Creating awareness among intermediaries, the local ICT sector, and end users
- Initiating, supporting and monitoring initiatives to develop local ecosystem creation and use
- Ensuring maximisation of local impact

A region may have existing ICT or economic strategies and DBE can often be easily fitted to local programmes to enhance them. DBE can itself be the basis for a strategies or programmes, both in the narrow sense of improving the ICT infrastructure and developing the local software sector, and in the wider sense of bringing the end-user advantages to SMEs in target sectors. In this latter respect much can be done locally to create common or re-usable business models and ontologies for local economic sectors and to seek aggregation and integration of local products and services in order to broaden market access.

Depending on the local strategy and programmes adopted, the types of benefits that could be anticipated within a region are:

- Improved ICT adoption
- Lowered ICT costs
- Enhanced ICT knowledge and skills
- Boosted growth in the software sector
- Increased inclusiveness for micro companies
- Overcoming geographical or infrastructural disadvantages
- New product development through clustering
- Improved product offerings and supply chain profitability through easier aggregation
- Increased globalisation among SMEs
- Creation of new business models and processes
- Emergence of a local self-supporting community of users
- Links into an international community of developers, users, and intermediaries
- Regional kudos from early adoption of a major technological change

## ***Critical mass issues***

DBE implementations can be stand-alone in that they can exist within a closed installation, even in quite major applications. Typical examples would be project management or MRP-type production planning systems, where project activities form independent but interactive elements that can be resolved within a reactive ecosystem. Smaller specialist applications that perform one small part of an overall application, possibly only using limited parts of the DBE technology, are also perfectly feasible.

However, major implementation concepts with wide economic development benefits often require end-users as actors and the business scenarios that result do not work until a critical mass of actors are involved. Typical examples would be online marketplaces, where both buyers and sellers are necessary for the market to work.

Such applications require the engagement of existing social networks or economic groupings so that the system starts with a viable base of users. This is a local activity to ensure that the application envisaged has a sustainable business model.

## ***‘Third party’ requirements***

While DBE provides a peer-to-peer platform, there is the need for an initiator to create each ecosystem, and within each ecosystem there may be a need for some functionalities that have to be provided for the community of users. The operation of servers that are part of the distributed network providing functions such as information on services is a typical example.

Regional administrations or specialist actors with an interest in economic or ICT development can enable DBE adoption by either providing such services or sponsoring/contracting other local actors to do so. These services may be linked with infrastructural/connectivity programmes or other regional online services.

## ***Platform projects***

Existing regional ICT projects where a platform is employed can often benefit from adopting the DBE. This is especially the case if the platform involves networking between economic actors. The DBE offers a low-cost and adaptable solution, as it is both free and open source. The distributed peer-to-peer nature of DBE means no single point of failure and the ability to extend the platform in many ways. Thus the region itself as operator of the host service can become the DBE ‘user’ with the end-users unaware of the DBE technology employed.

## ***The Catalyst-Driver methodology***

The DBE Project has developed a specific methodology for fully exploiting the DBE when it is required to be embedded into the regional SME economy. This is known as the ‘Catalyst-Driver’ methodology, which has been both developed and independently studied by social scientists as part of the EU DBE Project (see the Toolkit section for references). The methodology is offered as a ready-made and proven approach to the problem of bringing the DBE to SMEs.

The methodology begins with the appointment of a Regional Catalyst. Regional Catalysts are organisations that have certain strengths and ‘social capital’ among local SMEs. They may be funding agencies, economic development forums, or SME support organisations. Their interest may be specifically ICT or industry sector specific. Key qualities that they must possess are knowledge of local SMEs and sufficient social capital that SMEs would trust the organisation to advise them and act in their interests. The ‘Regional self-assessment’ section of the Toolkit contains detailed help for evaluating the suitability and profile of potential Regional Catalysts.

Regional Catalysts become the link between the DBE internationally and the local implementation. They would typically be responsible for:

- Communicating DBE to other regional players, including government and end users
- Recruiting and animating ‘Drivers’ and early adopters
- Supporting participants
- Linking the regional implementations into national and international resources and activities

Driver SMEs are software developers who are both able and willing to produce DBE applications. That is, to create software components and ecosystems that local end users will use. Crucially, they must already have *named existing* customers whom they are willing to offer DBE-based products or services to. Thus the Driver element of the methodology employs supply-chain economics and dynamics to introduce DBE into local use.

Drivers are typically:

- Software developers with a product (not just consultants)
- Certain type of programming skills (eg Java, J2EE, .net)
- Aware of and ideally involved in Free/Open Source Software
- Serving one or more target SME communities

The recruitment of drivers generally requires local knowledge or advertising. It is important to select only organisations that are both willing and able to participate as drivers are, as the name suggests, part of the motive force that will drive DBE into end user systems. If a local Open Source community exists then this will be a good starting place. Drivers are generally small, dynamic, and young companies. Ideally, they are to some extent already challenging the paradigms of established software. From these characteristics comes receptiveness to the DBE philosophy, and the motivation to adopt and promote the technology in their business.

In the DBE Project, Drivers were encouraged by being subsidised, generally with a 50% funding of the cost of developing new applications or of enhancing existing applications by porting them to DBE. However, it must be stressed that Drivers should be self-motivated and not primarily motivated by funding. Some of the DBE Project Drivers undertook the work without funding, preferring the speed and independence of action, and avoiding the bureaucracy of public funding. Thus it can be seen that the motivation in Drivers can be very strong.

Drivers are essential to the success of the methodology and it is possible to begin with only a few committed Drivers, each of whom brings a number of end users into play. Second stage financial

support was also given on a per application/user basis so that Drivers were encouraged to bring as many end users as possible into the project.

It can be seen that the Catalyst-Driver methodology relies heavily on the social capital of regional actors. This social capital has been built up over time and is a precious commodity. Both Catalysts and Drivers need to be fully convinced of the benefits of DBE and to protect each other's social capital 'asset' by acting in the best interests of those in whom such capital is invested.

## Sustainability

It is obvious that any regional participation in DBE should be planned so as to be sustainable in the long term, as businesses need stability, particularly when investing in mission critical systems.

As well as forming a model for sustainability from the local economic benefits, there are some specific factors that may help support sustainability. The emergence of Free/Open Source communities is particularly important in this respect.

### *The Free/Open Source movement*

There is a strong reaction among the software industry to the aggressively monopolistic situation that emerged from the domination of the PC market. Even in today's rapidly changing market for operating systems and software many players naturally and deliberately seek global domination from which they know enormous profits would flow. This has produced a strong reaction among users who feel trapped and exploited by '*de facto*' standards with the result that several alternative models have emerged.

Free/Open Source software (F/OSS) is not a single phenomenon with a precise description, but collectively describes a loose family of software models where **one or more** of the following probably applies:

- The software source code that is technically essential if users are to be able to adapt the software is made public
- The software is developed in the open with contributions and comments from the user community
- The software has copyright conditions, sometimes referred to as copyleft, that allows the user to modify and distribute the software (there are a number of licence scenarios with different conditions)
- The software is free

There are many variations on F/OSS both from the philosophical and ethical standpoint, and from the point of view of business models of those engaged in providing and using such software. The core ethos could be said to be that users should not be trapped into perpetually buying licences from a monopoly holder for a product they cannot control.

F/OSS is still an emerging phenomenon and has enjoyed some notable success. Probably the best known is the operating system 'Linux', which comes in both free and paid for versions, and is

claimed to operate around 25% of all servers and 75% of all web servers. Sun's 'Star Office' is a major alternative application for common office programs. Major users such as public administrations have switched to Open Source software as the cost and control are advantageous.

A major difference between the proprietary and F/OSS models is seen in the support. Whereas proprietary vendors are expected to support and develop their software for free, and generally exercise exclusivity over development or customisation, F/OSS producers may provide no support, or limited free support, or may charge for support. As the source is open, the user may employ their own support and development resources, but more often it is the user community that provides maintenance and development in a spirit of mutuality. Comparing proprietary and F/OSS models, the cost of support in F/OSS can be significantly less than the cost of proprietary software licences, and the user community can be faster to react to problems and needs than a vendor who has to think in terms of major global releases. If a large number of local users have the same F/OSS software then it creates an open commercial market for support and custom software development, which, due to the open nature of the software can be satisfied locally by software companies and ICT consultancies.

However, the real key to F/OSS working is for the user base to contribute the resources for support and development. Many will do this through voluntary personal effort. This can be for a variety of motivations including personal recognition, promotion of paid consultancy, a sense of community, or philosophical support for F/OSS. Thus an active user community is an essential ingredient in F/OSS and the international F/OSS communities are an essential resource for DBE.

## ***User communities***

Given the importance of strong user communities for development and support of F/OSS software it could be advantageous if a region could establish its own DBE user community. If there are any existing F/OSS communities locally a DBE group might be able to be formed as an additional specialist group.

Certainly links should be formed with other DBE regions and their communities. It is likely that users will gradually be attracted to user communities that have the same sectoral interests so there is the potential to develop 'vertical' communities across regions, which will also promote inter-trading.

## **TOOLKIT**

The following sections contain practical tools that support regional participation in the DBE

## Section one - Regional self-assessment

While the DBE as a platform has extremely wide application and should find potential in every region, it is important to assess whether or not your region has the skills and is ready to make the commitment that is necessary to truly participate in DBE as DBE is not an off-the-shelf product but a platform that *facilitates* the creation of ecosystems for specific purposes.

The detailed assessments of the regions undertaken by Censis, the social science observations undertaken by LSE, and the regional case scenarios researched by FZI provide in-depth analyses and knowledge about regional participation (see reference section).

**We have provided some brief questions below that are designed to quickly self-test your readiness to participate.**

Following this there is a more detailed balanced scorecard self-assessment that is designed to profile a potential regional catalyst. This is not a test but merely a profile. Initially it may suggest some strengths and weaknesses, but the main purpose is that if you apply for Associate Region status then your profile can be compared to other Regional Catalysts. The knowledge gained may help to determine how best to approach DBE participation in your specific case.

### ***Some quick self-test questions***

1. Are you a 'region' in the sense that you have an administration or other organisation with responsibility for regional economic development?
2. Is ICT one of your regional priorities?
3. Do you have a local software sector?
4. Do you already have existing or planned projects that DBE could be integrated with?
5. Do you have access to funding that could support your DBE participation?
6. Could you gather enough political support to make a formal regional commitment to DBE participation?
7. Can you identify an organisation that could act as Regional catalyst?

The more that you can answer the above questions positively, the more your region is ready to participate in DBE.

## **Balanced Scorecard self-assessment system**

### **Purpose**

As part of the DBE Project, a ‘balanced scorecard’ assessment was conducted of the Regional Catalysts (RCs) in order to understand their present situation, and to capture knowledge for future participation by additional regions.

Balanced scorecard is a strategic management technique invented by Robert Kaplan and David Norton of Harvard Business School. It seeks to make objective and quantitative measures using four headings or ‘perspectives’ in order to provide a comprehensive and balanced view of an organisation that is able to usefully inform management. The measures are determined by the organisation itself, and the names of the four perspectives are often adapted slightly to suit the type of organisation. In the case of the DBE we will use the four perspectives:

- Financial
- User
- Business process
- Development

This template document sets out the metrics that we will use under each of the four perspectives. We will use this single template for all RCs in order to provide consistency and comparability.

### **A management tool - not a test**

It is important to understand that balanced scorecard is a strategic management technique that should help the RC itself, as well as the DBE governance mechanism to improve the chances of achieving success. The idea is not to ‘test’ RCs, but to investigate, especially over the course of time, how the different characteristics of each RC influence the role and the success of achieving DBE objectives. The results may also influence current, and especially future RCs, in terms of how they set up and manage their DBE operations.

### **DBE Regional Catalyst objectives**

Central to our task is to assess how the situation of each Regional Catalyst impacts on the achievement of the DBE objectives. For our purposes these objectives can be summarised as:

- Sensitise the region to the opportunity of the DBE
- Involve the regional software industry in pilot actions
- Support the pilot actions including a major training development
- Encourage the formation of a long-term sustainable DBE community linked to other such communities internationally



## **Understanding the types of metrics**

Strategic objectives and missions are normally defined in relatively ‘soft’ terms, while objective assessment demands ‘hard’ measurements. Expressing strategic performance in terms of hard measurements is perhaps the most difficult aspect of Balanced Scorecard. Numerical measurements must be used where possible, but where these are impossible or meaningless then other techniques can be used that give a quantitative measure. In this system we have used:

- Ratings - these are agreed assessments of a parameter on a scale from 0 - 5 (where 0=none and 5=max) unless a different scale is specifically stated
- List count - where we count the number of items that can be listed
- Traffic light - to identify elements that are green (good), red (bad), or yellow (marginal) - These can be cut and pasted from the end of the document
- Multipliers - where items of differing types are being counted and the type has a bearing, then the item count is weighted by using the stated multipliers

## **Completing the scorecard**

The next four sections describe the metrics in detail for each of the four balanced scorecard perspectives. The data is then entered on a spreadsheet or database.

Most of the sections can be completed by the Regional Catalyst themselves, or any organisation intending to become a DBE Regional Catalyst. Some of the sections on customer perspective require interviews (ideally independent) with other organisations.

## FINANCIAL PERSPECTIVE

### Business model

The sources of organisational income that enable the RC to operate

Total annual income - amount in euro	
--------------------------------------	--

Analysis of income by source:

<ul style="list-style-type: none"> <li>Public sector direct funding - amount in euro</li> </ul>	
<ul style="list-style-type: none"> <li>Public sector project funding - amount in euro</li> </ul>	
<ul style="list-style-type: none"> <li>Private sector sponsorship - amount in euro</li> </ul>	
<ul style="list-style-type: none"> <li>Earned income from private sector clients - amount in euro</li> </ul>	
<ul style="list-style-type: none"> <li>Other income (list) - amount in euro</li> </ul>	
Annual operating costs - amount in euro	
Percentage of costs that are fixed overheads - percentage of operating costs	
Revenue growth - annual percentage	
Cost growth - annual percentage	

### Financial security

The extent to which the organisation can have confidence in its future

<ul style="list-style-type: none"> <li>Capital reserves - amount in euro</li> </ul>	
<ul style="list-style-type: none"> <li>Funding horizon - years</li> </ul>	
<ul style="list-style-type: none"> <li>Current or last year excess income over expenditure - amount as percent of turnover</li> </ul>	

<name of the deliverable>

**Financial independence**

The economic ability of the organisation to follow its own agenda

<ul style="list-style-type: none"><li>• Disposable reserves - as percentage of turnover</li></ul>	
<ul style="list-style-type: none"><li>• Access to capital - Y/N</li></ul>	
<ul style="list-style-type: none"><li>• Constitutional constraints - limits imposed on financial freedom</li></ul>	

## USER PERSPECTIVE

### Size

Number of full-time personnel	
-------------------------------	--

### Identification

Perceived organisational role in region

<ul style="list-style-type: none"> <li>User's own definition of the organisation and its objectives/mission - scale rating of verbatim response judged against organisation's own statements</li> </ul>	
---	--

Customer's definition of service quality

<ul style="list-style-type: none"> <li>List customer's requirements from support organisations - rating of how well these are met by the RC</li> </ul>	
--	--

Level of competition

<ul style="list-style-type: none"> <li>How many other organisations can be named that cover the service provision listed in previous item - count of list</li> </ul>	
--	--

### Human capital

Local network connections - List count of links with other regional/national organisations factored by multiplier according to type of link:

<ul style="list-style-type: none"> <li>Cross-ownership x5</li> </ul>	
<ul style="list-style-type: none"> <li>Project partnership x4</li> </ul>	
<ul style="list-style-type: none"> <li>Mass project partnerships x1</li> </ul>	
<ul style="list-style-type: none"> <li>Joint meetings x2</li> </ul>	
TOTAL	

Connections with regional and national administration

- rating of quality of influence over regional administrative decisions	
---	--

International connections

- list count of number of organisations with whom there is interaction	
--	--

Open Source connections

<ul style="list-style-type: none"> <li>Organisational - list count of links with OSS players</li> </ul>	
<ul style="list-style-type: none"> <li>Functional - rating of influence over OSS groups and bodies</li> </ul>	

Face-to-Face SME contact - number of equivalent full time persons engaged in face-to-face activity with SMEs x multiplier for level of contact:

<ul style="list-style-type: none"> <li>Chairman/Chief Executive/Owner x10</li> </ul>	
<ul style="list-style-type: none"> <li>Directors/Senior managers x8</li> </ul>	
<ul style="list-style-type: none"> <li>Managers x4</li> </ul>	
<ul style="list-style-type: none"> <li>Workforce x1</li> </ul>	
TOTAL	

Role as a support organisation (ie. relationship with SMEs) - add scores from list

<ul style="list-style-type: none"> <li>Provide financial support 10</li> </ul>	
<ul style="list-style-type: none"> <li>Provide advice 5</li> </ul>	
<ul style="list-style-type: none"> <li>Provide facilities 7</li> </ul>	
<ul style="list-style-type: none"> <li>Provide information 2</li> </ul>	
<ul style="list-style-type: none"> <li>Other services (rate on scale 1 - 10)</li> </ul>	
TOTAL	

Closeness to target SMEs

Knowledge of and contact with the types of SMEs sought by the DBE:

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<ul style="list-style-type: none"><li>• Drivers - traffic light</li></ul>	
<ul style="list-style-type: none"><li>• Software and online service providers - traffic light</li></ul>	
<ul style="list-style-type: none"><li>• Discoverer SMEs - traffic light</li></ul>	
<ul style="list-style-type: none"><li>• Opportunity Space (sectoral) SMEs - traffic light</li></ul>	

## BUSINESS PROCESS PERSPECTIVE

### Mission critical processes

Organisational objectives/mission

<ul style="list-style-type: none"> <li>Closeness of organisational objectives or mission to project objectives - rating</li> </ul>	
--	--

Organisational structure

Strengths of the structure of the RC in terms of DBE objectives?

<ul style="list-style-type: none"> <li>Ownership - rating</li> </ul>	
<ul style="list-style-type: none"> <li>Management - rating</li> </ul>	
<ul style="list-style-type: none"> <li>Operations - rating</li> </ul>	
TOTAL	

Physical location

Extent to which RC is close to or distant from key players

<ul style="list-style-type: none"> <li>Travel time to regional capital - time in hours</li> </ul>	
<ul style="list-style-type: none"> <li>Travel time to furthest significant (pop &gt;100,000) conurbation - time in hours</li> </ul>	
<ul style="list-style-type: none"> <li>Location in relation to the regional demographics (especially software industry) - rating</li> </ul>	

### Support processes

Strength of organisational infrastructure:

<ul style="list-style-type: none"> <li>Access to legal and administrative facilities - rating</li> </ul>	
<ul style="list-style-type: none"> <li>Internal administrative systems - rating</li> </ul>	
<ul style="list-style-type: none"> <li>Secretarial, marketing, PR, accountancy, management - rating</li> </ul>	
<ul style="list-style-type: none"> <li>ICT technical expertise - rating</li> </ul>	

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<ul style="list-style-type: none"><li>• OSS/DBE technical expertise - rating</li></ul>	
TOTAL	



## DEVELOPMENT PERSPECTIVE

### Culture

Backgrounds of personnel

Number of personnel with prior experience in:

• ICT projects - count	
• Open Source Software - count	
• SME management - count	
• SME support - count	
• Training - count	

Qualifications of personnel

Number of personnel with higher education/qualification:

• Degree level - count	
• Postgraduate qualification - count	
• Professional qualification - count	

Working environment

Degree to which the working environment encourages change and progression - traffic light	
Strength of formal communication - traffic light	
Strength of informal communication - traffic light	

### Personal development

Appraisal

- traffic light based on: Green - eg. Formal system for linking training to organisational objectives Yellow - eg. Formal reviews at least	
--	--

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annually Red - eg. no formal system of appraisal	
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Formal training (paid for or professional courses)

- traffic light based on: Green - Equivalent of more than 10 days/year training Yellow - >1 < 10 days/year Red - no formal training provided	
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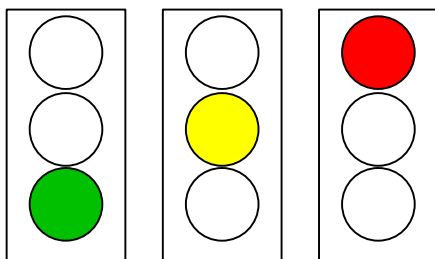
## Organisational development

Strength of change agents:

• Objective setting and reviews - rating	
• Market research/planning/forecasting - rating	
• Client feedback mechanism - rating	
• Transparent performance indicators - rating	
<b>TOTAL</b>	

## APPENDIX

Traffic light images (copy and paste into answers as appropriate)



## Section two - Observer application form

This form simply sets out the information that will be required. It is not necessary to provide it on the form itself.

Name of region	
Organisation name	
Organisation contact details Address   Telephone Fax General email Web site	
Organisation type eg: Regional authority; Government agency; Non-profit independent organisation	
Primary contact name and title	
Primary contact details (where different from organisation details)	
Nature of interest in DBE	
Other notes or comments	

### Accompanying documents:

\* Expression of interest letter - this should be from an authorised representative of the organisation and should request appointment of the organisation as an official observer

List of any other contacts with contact details (colleagues etc.) who should be kept informed of DBE

\* = obligatory

<name of the deliverable>

## Section three - Associate application form

This form sets out the information that will be required. It is not necessary to provide it on the form itself. The accompanying documents are important for your application, particularly the Participation Plan. You should seek advice and help from DBE management in preparing this.

Name of region	
Definition of region (eg. EU NUTS II level, or description of geographical boundaries)	
Regional Catalyst organisation name	
Regional Catalyst organisation contact details Address       Telephone Fax General email Web site	
Organisation type eg: Regional authority; Government agency; Non-profit independent organisation	
Organisation activities (briefly outline what your organisation or the relevant part of it does within your region)	
Management contact name and title	
Management contact details	

Operational contact name and title	
Operational contact details	
Other notes or comments	
List of accompanying documents  (List the titles of the documents provided, plus a one-line description)	

**Accompanying documents:**

\* Application letter - this should be from an authorised representative of the organisation or partnership and should request appointment as an Associate Region of the DBE.

\* Participation plan - this document should describe how your region will adopt the DBE and what role it will play in furthering the DBE. The plan might usefully include:

- Analysis of it existing ICT strengths and infrastructure
- A description of relevant existing ICT and economic development projects
- A description of the regional project or programme that will form the region's participation in the DBE
- Outline budgets and funding for the activities
- Special knowledge, links, plans, or other considerations relevant to adoption and participation in DBE.

Details of any additional organisations, with contact details, that will jointly be participants.

Organisational diagram (organogram) of Regional Catalyst organisation/partnership

List of Driver SMES, centres of excellence, F/OSS groups, or other organisations that will be asked to participate in the implementation.

\* = obligatory

<name of the deliverable>

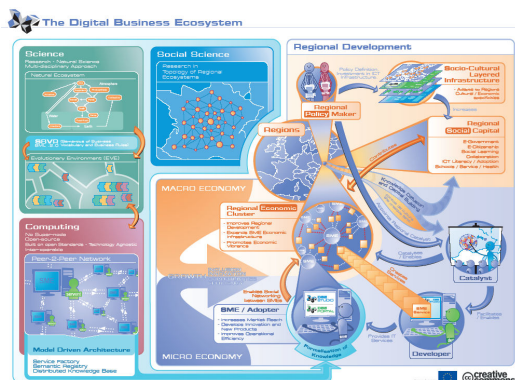
## Section four - Presentation materials

This section provides links and thumbnails of selected presentation materials that you may want to use in early regional presentations. All are licensed as 'Creative Commons'. To see all materials go to the DBE website [www.digital-ecosystem.org](http://www.digital-ecosystem.org)

Overview of the entire DBE

Type: pdf document

URL: [http://www.digital-ecosystem.org/downloadfiles/DBE%20Overview\\_Final.pdf](http://www.digital-ecosystem.org/downloadfiles/DBE%20Overview_Final.pdf)



The benefits of the DBE

Type: Flash movie

URL: [http://www.digital-ecosystem.org/downloadfiles/micro\\_mov\\_dbe.exe](http://www.digital-ecosystem.org/downloadfiles/micro_mov_dbe.exe)



# DBE Presentation for SMEs

Type: PowerPoint

URL: [http://www.digital-ecosystem.org/DBE\\_Main/downloads](http://www.digital-ecosystem.org/DBE_Main/downloads)



## Section five - Basic technical information

The DBE is an open source environment. The unique functionality of the ecosystem and its planned accessibility will enable SMEs, even those with low ICT access, to interact with each other in ways not previously possible.

The DBE architecture is made up of three distinct environments:

- The Service Factory
- The Execution Environment and
- The Evolutionary Environment

### The Service Factory (SF)

The SF is represented by a set of tools that allow SMEs to describe and publish their services. It leverages the use of models editors, regular java based development environment and a repository for publishing and retrieving service models and data

### The Execution Environment (ExE)

The ExE is a sort of distributed virtual machine or networked set of operative systems that allow services to be published, discovered and consumed over the Internet. In addition, the ExE provides a set of structural features such as authentication, authorisation, privacy, transactions, logging and so forth.

### The Evolutionary Environment (EvE)

This is the long-term experimental environment that provides tools based on principles of nature. In this underlying environment, complex services are transparently created from the services found in the ExE. Such services are created to support unfulfilled, possible future business requirements. For example, the EvE could realise that there are particular recurring requests in a particular region. This information is based on usage data from the SF and ExE. The services created are in the form of specification as opposed to implementation which allows SMEs to implement them and in turn other SMEs to consume them.

## Services

Services in the DBE are described under two headings:

- Business and
- Computing

‘Business’ seeks to describe the service in business terms ie the company’s goals, products, price models, business model and strategy. All of this information is defined in terms and concepts that are abstracted from any implementation specification. The goal here is to enable non-IT specialists to define and understand such specifications and at the same time make them precise and complete enough to be computable. The computable form of the business models provides the ability to make

<name of the deliverable>



contract negotiations and agreement and compute the merit of business offers.

The ‘Computing’ models associated with the various business services enable business offers to be consumed via online services. The model enables non- predefined IT functional modes to be integrated into the DBE. The goal is to be as un-invasive as possible and avoid enforcing compliance to DBE functional and technical models.

These business and computing models together with ‘instance’ data such as location, name and cost makes up the ‘Service Manifest’ – a self-contained descriptor of the service.

## Section six - Glossary

Associate regions	Regions that have made a commitment to implementing and participating in DBE
DBE (Digital Business ecosystem)	A system platform for developing and operating Internet-based ecosystems for business applications
DBE Project	The EU project of the 6 <sup>th</sup> Framework Programme that initiated the DBE
Driver SMEs	Software developers that are both able and willing to develop DBE products
European Commission (EC)	The executive of the European Union
European Union (EU)	The union of 25 European Member States that form a common economic and political area.
Framework Programmes	Four year programmes of research and development co-financed by the EC and targeted at key areas for Europe
F/OSS (Free/Open Source Software)	A generic name for many kinds of software that break with the traditional proprietary model of ownership, protection, and licensing
Observer regions	Regions expressing a formal interest in learning about and following the DBE
Partner regions	The three regions of Tampere (Finland) Aragon (Spain) and West Midlands (United Kingdom) that were contractors to the DBE Project
Regional Catalyst	An organisation that acts as the regional link into the DBE project and organises the local participation
SME/micro enterprise	Small and Medium-sized Enterprises having less than 500 employees/ less than 10 employees

## **Section seven - Regional participation reference documents**

The DBE Project has produced the following public documents that may be useful for the study of DBE by regions. The latest documents, as well as wider information, are available via the public website <http://www.digital-ecosystem.org>.

[Interviews and Grounded Methods](#)

[Social Network Analysis](#)

[Focus Groups and Online 'Mind Maps'](#)

## Section eight - contacts

For more information on the DBE, please contact the following:

General information: [info@digital-ecosystem](mailto:info@digital-ecosystem)

### DBE Project Contacts

Project Manager: *Andrea Nicolai, T6*: a.nicolai@t-6.it

Research Coordinator: *Dr Paolo Dini, London School of Economics*: P.Dini@lse.ac.uk

Technical Coordinator: *Miguel Vidal, Sun Microsystems Iberica*: miguel.vidal@sun.com

Chief Architect: *Dott. Pierfranco Ferronato, Soluta.net*: pferronato@soluta.net

Business Domain Coordinator: *Elmar Husmann, IBM Business Consulting*: ehusmann@mac.com

### Links to the Partner Regions

☐ [Tampere, Finland](#)

☐ [Central England Region, UK and](#)

☐ [Aragon, Spain](#)

### Participating SMEs from the Partner Regions

#### West Midlands, UK

RedeNet - <http://www.redenet.co.uk/>

Paul Meier – <http://www.meierpollard.co.uk/>

Domain Solutions - <http://www.ooagenerator.com/>

OpenScape – <http://www.openscape.co.uk/>

#### Tampere, Finland

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Yukatan & Nemein – <http://www.openpsa.org/>

(Blog: <http://www.nemein.com/planet-dbe/> )

Integratum – <http://www.centraview.com/>

(Blog: <http://media.ee.tut.fi/dbe/blog/integratum/?p=4> )

Joinex – <http://joinex.com/>

## **Aragon, Spain**

BARRABES BUSINESS SOLUTIONS - [www.barrabes.com](http://www.barrabes.com)

DBS - <http://www.dbs.es>

EON - <http://www.eon.es>

Gábilos Software S.L. - <http://www.gabilos.com>

## **Associated Regions**

### **Trento (Italy)**

Trento Create Net <http://www.create-net.it>

Contact: *Luigi Telesca* [luigi.telesca@create-net.it](mailto:luigi.telesca@create-net.it)

You can access the Trento Region blog at:

<http://www.dbe-italia.splinder.com/>

### **Piemonte (Italy)**

CSP Piemonte <http://www.csp.it>

Contact: *Claudio Inguaggiato* [claudio.inguaggiato@CSP.IT](mailto:claudio.inguaggiato@CSP.IT)

*Susanna Longo* [susanna.longo@csp.it](mailto:susanna.longo@csp.it)

### **Extremadura (Spain)**

Contact: *Luis Lozano* [luis.lozano@brutele.be](mailto:luis.lozano@brutele.be)

### **Baden Württemberg (Germany)**

MFG Baden Württemberg <http://www.mfg.de>

Contact: *Jan Runge* [runge@MFG.DE](mailto:runge@MFG.DE)

## **Observing Regions**

### **Region of Stuttgart (Germany)**

Open Source Region Stuttgart <http://opensource.region-stuttgart.de>

Contact: *Hans Ulrich Schmid* [hans-ulrich.schmid@region-stuttgart.de](mailto:hans-ulrich.schmid@region-stuttgart.de)

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**Veneto (Italy)**

University of Venice/CNA (National Confederation of SMEs of the Veneto Region)

<http://www.cnaveneto.it>

Contact: *Dr. Matteo Povolato* povolato@unive.it

**Other Partnering Organisations**

**Slovak Open Source Initiative**

<http://www.skosi.org>

Contact: *Jan Husar* jan.husar@skosi.org

**Finish Center for Open Source Software**

<http://www.coss.fi>

**West Midlands Open Source Solution Center**

<http://www.openadvantage.org>