



CE-NET

Concurrent Enterprising Network of Excellence

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CE-NET New Members Handbook

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- ?? ESoCE: European Society of Concurrent Engineering, Paris, France
- ?? PUB: Polytechnica University of Bucharest, Romania
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EXECUTIVE SUMMARY

This document contains deliverable D01A of CE-NET – Concurrent Engineering Network of Excellence. The objective of the Network is to establish a well co-ordinated and effective support infrastructure throughout Europe in order to share and exchange the latest developments in the concurrent enterprise domain.

This is an additional deliverable which the NMC decided to issue in order to ease the integration of new members into the network. This handbook sets out types of membership of the network, the network management and the network information infrastructure.

The handbook is designed for use by the new members of the network, it is a public document.

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1 INTRODUCTION

1.1 Purpose of this Handbook

This handbook describes the CE-NET, its objectives, expected results, and describes how these will be managed and achieved. Its purpose is to familiarise new members of the network with the CE-NET's purpose, the founding members of the network and their responsibilities – services provided to the network and to new members. The validity of this document is limited to the duration of the project.

Although this manual may be useful to anybody who is involved in the CE-NET, it is primarily intended to be used by new members. It is a public document for general dissemination.

1.2 Network Project Summary

Objectives

CE-NET aims to establish and further develop a well co-ordinated and effective support infrastructure throughout Europe in order to share and exchange the latest developments in the domain of Concurrent Enterprising (CE)¹.

Specifically, the sub goals are:

- ?? To initiate the analysis of current trends and to provide a strategic vision on CE in Europe (long term focus)
- ?? To act as a catalyst for supporting the implementation of CE in industry and for identifying research needs
- ?? To collect, categorise and present knowledge on CE to a wide industrial and academic community in order to capitalise the existing know how
- ?? To provide a forum for developing focused initiatives in the CE domain such as special interest groups or groups for international collaboration, for industry and academia

Description of Work

The CE-NET will develop and update a strategic CE roadmap which will describe industrial and research needs and visions for Concurrent Enterprising in Europe. This document will be the rationale from which the direction of all tasks in CE-NET will be controlled.

The overall objective to share and exchange the latest CE information will be reached by using multiple channels:

- ?? Structured and qualified WWW repositories will be made available for pulling 'distilled' information about CE projects, tools, methods, industrial cases, and organisations. The CE-NET aims to provide the premier knowledge base about CE in Europe and thus to accelerate the access to this know how

¹ The Concurrent Enterprise implements Concurrent Engineering in the Virtual/Extended Enterprise. The CE is a distributed, temporary alliance of independent, co-operating manufacturers, customers and suppliers using systematic approaches, methods and advanced technologies for increasing efficiency in the design and manufacturing of products (and services) by means of parallelism, integration, team work, etc. for achieving common goals on global markets. [Thoben, Weber 1997]

- ?? Selected information will be pushed by means of a project brochure for attracting new members, regular newsletters for providing the CE society with pertinent information, and customised messaging for reacting to specific information needs of individual organisations
- ?? Conferences and workshops will bring together people for formal and informal networking in physical and virtual meetings. CE-NET will organise the ICE conferences and organise virtual workshops.
- ?? Special interest groups will encourage the nodes to work in dedicated groups on specific subjects. This will also include special groups for international collaboration.

By combining these complementary approaches, the CE-NET will meet the divergent needs of its nodes. Three types of nodes are distinguished: Service nodes will provide the above services for the network, user nodes will exploit these services and actively define their needs, whereas affiliated nodes will passively exploit the network

Milestones and Expected Results

2 CE roadmaps, 1 extended CE taxonomy, descriptions about 150 CE projects, 100 CE tools and methods, 25 industrial cases, 200 organisations; 1 project brochure, 6 CE newsletters, 500 customised CE information messages, 2 ICE conferences, 6 virtual workshops on dedicated subjects, 3 special interest groups. Furthermore, the network will have various intangible results.

1.3 Network Objectives

There is an ever-increasing demand for improved efficiency in the product design and development environment within the broad context of Concurrent Enterprising. Arguably the competitiveness of a firm is often determined by its ability to transfer, share, exchange, and capitalise on the latest developments/information irrespective whether they are within research or an industrial community. The CE-NET phase 1, the prime aim of which was to establish a well co-ordinated infrastructure in Europe, has shown that there is an extensive CE community in Europe with a clear need and interest in sharing and exploiting the results of developments in their field. Evidently, phase 1 has stimulated and mobilised the CE community that is continually striving for innovative developments to enhance their competitiveness. The tangible and intangible economic benefits accruable from phase 1 are substantial. Clearly an opportunity exists to consolidate the infrastructure and achievements made to date by extending the boundaries to broaden its appeal to incorporate international dimension. The network proposes to address enterprises in the engineering domain irrespective of size, sector or market served.

The prime aim of this second phase of the CE-NET is to establish and further develop a well co-ordinated and effective support infrastructure throughout Europe in order to share and exchange the latest developments in the CE domain.

Specifically, the sub goals are:

- ?? To promote the concept of Concurrent Enterprising as the implementation of Concurrent Engineering in the Extended Enterprise to a world wide constituency
- ?? To initiate the analysis of current trends and to provide a strategic vision on CE in Europe (long term focus)
- ?? To act as a catalyst for implementation of CE by industry
- ?? To collect, categorise and present knowledge on CE to a wide industrial and academic community
- ?? To provide a forum for developing focused initiatives in the CE domain such as special interest groups or groups for international collaboration, for industry and academia

1.4 Final Results

The results of the CE-NET will be:

- ?? a collection of information and current trends in industry for detailed analysis and interpretation for the provision of a strategic vision with respect to CE in Europe.
- ?? the provision of regular events and forums for the dissemination, share, and cross-fertilisation of ideas, developments, and practices across Europe and selected international community.
- ?? the active distribution of CE related information, activities, and developments in Europe.
- ?? the premier knowledge base on the WWW for CE related developments in Europe
- ?? a stimulus for the development of new initiatives, actions, activities and projects that will enhance the competitiveness of European industry.

These results and strategic vision will be used by

- ?? industry to have an orientation for future ways of working in product development
- ?? academia to have an indication about research needs
- ?? IT providers to have an insight into future business needs
- ?? the European Commission to define relevant action lines for the 5th framework programme

1.5 Yardsticks for success

1.5.1 Task Related yardsticks

The following yardsticks will be used to evaluate the quantitative output of the different tasks performed in the network:

- ?? 3 CE roadmaps which define strategic needs and vision for CE in Europe
- ?? 1 extended CE taxonomy with sub taxonomies
- ?? 150 CE project descriptions in the CE projects WWW site
- ?? 100 CE tools and methods in the CE tools WWW site
- ?? 25 industrial cases in the CE best practice WWW site
- ?? 200 organisations in the CE Who Is Who WWW site
- ?? 1 project brochure
- ?? 3 Annual Reports
- ?? 12 Electronic CE newsletters
- ?? 500 broadcasted customised CE information messages
- ?? 2 ICE conferences with approx. 160 delegates from industry and academia
- ?? 6 virtual workshops on dedicated subjects
- ?? 3 special interest groups and corresponding findings

1.5.2 Impact Related Yardsticks

Furthermore, additional target values have been defined in order to evaluate the success of CE-NET with respect to reaching its objectives:

Industrial impact

- ?? Number of addressed industrial requests/enquiries: 200
- ?? Introduced and improved CE practices (number of companies): 100
- ?? Number of SMEs exposed to CE related information, training material, and participation to different events and forums: 500

European impact

?? Developed new partnerships: 40

?? Incorporating active members from East European countries: 10

International impact

?? Number of international nodes or organisations accessing CE-NET information: 50

?? Number of countries involved: 25

Promotional impact

?? Number of visits to the web sites per year: 7.000

?? Number of workshops and conferences: 6

1.6 Network Description of Work (DoW)

The Network Description of Work (DoW) defines the obligations of the CE-NET consortium in regards of the contract (IST-1999-29107) with the European Commission. The content of the network plan is summarised in Chapter 3.

1.7 Members

Every member of the CE-NET is referred to as a member. There are several types of membership. The members which founded the network can sometimes be referred to as the Founding Members (the 14 members having a contract with the European Commission); and Associate or subcontract members (having a subcontract with the coordinator for the performance of some network services). The Founding members are listed in the tables below. New members join the network after it started 1 January 2001.

It is important to note that CE-NET is neither mainly industrially nor mainly academically oriented. The specific benefits achieved in Phase 1 of CE-NET have been particularly due to the balanced co-operation of industry and academia with the common goal to develop and implement CE in Europe. This will be also the approach for Phase 2. Table 1 reflects the balance.

Universities and RTD institutes	Technology transfer centres and company associations	Industrial companies, including production, software and consulting	Total
17	7	12	36

Table 1: Balance between academic, technology transfer and industrial nodes in CE-NET

Within this co-operation, it is typical that academic organisations bring new information and concepts into the network, while industrial organisations exploit this information and provide stimulation, experience, and needs. Thus, CE-NET will intentionally distinguish between two essential types of nodes: service nodes and user nodes: Service nodes will provide services for the network and user nodes will use these services². This structure takes specifically into consideration that several organisations that are interested in taking advantage from the network do not have resources for considerable contributions, but still wish to become a member. In more detail, the following roles are specified:

?? **Service Nodes** are the major service providers in the country. They provide a substantial service to the network by e.g., organising workshops, executing surveys, collecting and

² Obviously, a service node will also take the role of a 'user' when it uses the services provided by the other service nodes. Still, we name it service node as it is responsible for providing at least one service, which is not the case for the user nodes.

disseminating information, co-ordinating activities, etc. Service nodes will receive some funding for providing the services and will contribute additional resources like equipment or manpower from e.g. own research budgets. All members and some of the associated members listed in below are service nodes.

?? **User Nodes** exploit the services of the network. They define the needs for the services and the needs with respect to CE, and they use the services by e.g. capitalising the provided information, attending workshops, initiating co-operations etc. They do not provide services themselves (but are free to do so if wanted). User nodes receive travel funding for attending CE-NET meetings, workshops and other collaborative events (the user nodes are listed in below).

?? **Affiliated Nodes** also exploit the services of the network. However, they are not contractual members of the network and receive no funding. They are affiliated to the network by e.g. other CE projects, co-operations with network partners, or become affiliated on own initiative or invitation (e.g. via workshop contacts). The large number of affiliated nodes stem especially from the various associations and networks in which the CE-NET partners are active members. All affiliated nodes will be included in the active dissemination activities of the network (especially via mailing lists).

Service nodes are typically academic institutions, or technology transfer organisations. User nodes are typically industrial companies, consultancies, or IT vendors but can also be academic institutions, as these shall also exploit the services of the network. Table 2 provides a numerical overview of the partnership.

Service Nodes	User Nodes	Affiliated Nodes
24	12	2400

Table 2: CE-NET partnership – node distribution

The following Table 3 lists the founding members, which are contractually responsible for carrying out the work of the network. This is followed by the list of associated members, who also joined at the start of the network, but only some of whom provide services for the network.

List of Members						
Partic. Role*	Partic. No.	Participant name	Participant short name	Country	Date enter project	Date exit project
CO	1	University of Nottingham	UoN	UK	Start of project	End of project
M	2	ADEPA	ADEPA	France	Start of project	End of project
M	3	Bremen Institute of Industrial Technology and Applied Work Science at the University of Bremen	BIBA	Germany	Start of project	End of project
M	4	CE Consulting	CEC	Italy	Start of project	End of project
M	5	University BW Munich	CeTIM	Germany	Start of project	End of project
M	6	Cranfield University		UK	Start of project	End of project
M	7	Technical University of Denmark	TUD	Denmark	Start of project	End of project
M	9	European Society of Concurrent Engineering	ESoCE	France	Start of project	End of project
M	10	Univ. Polytechnica Bucharest	UoB	Romania	Start of project	End of project
M	12	Tampere University of Technology		Finland	Start of project	End of project
M	13	University of Twente,		The Netherlands	Start of project	End of project
M	14	VTT Electronics	VTT	Finland	Start of project	End of project

*CO = Co-ordinator

M = Member

Table 3: Founding Members of CE-NET2

Furthermore, the following organisations will contribute as associated members on a sub contractor basis:

ALFAMICRO, Portugal *	SIGNAAL, The Netherlands
Arthur Andersen, The Netherlands	SINTEF, Norway *
Bee Pitron Co Ltd., Russia	SPIIRAS, Russia *
Birmingham Centre for Manufacturing, England	TEAM, Italy
BPR Ltd., England	UNINOVA, Portugal *
CeBeNetwork, Germany	Universidade Nova de Lisboa, Portugal *
CENTIMFE, Portugal	University Jaume I of Castellón, Spain *
Ecole Centrale Paris, France	University of Oulu, Finland
European Aeronautic Defence and Space Company (EADS), Germany	University of Padua, Italy *
ESTEC, Portugal	University of Trento, Italy *
Innovazione d'Impresa, Italy	Willi Maschinenbau AG, Switzerland
Northern Technologies, England	
Rolls Royce Power Engineering, England	

* These associated members will also provide services for the network. The other associated members are user nodes.

1.8 New Members

New members are those members of the network who join after the start of the network (ie. 1 Jan 2001). It is the aim of the network to maximise the number of new members recruited during the duration of the network. It is the responsibility of all network members to actively recruit new members. Every organisation (academic, industrial or technology transfer type of organisation) is welcomed and encouraged to join the network. The only prerequisite is that the organisation shows considerable expertise or interest in the area of Concurrent Engineering, Extended Enterprising and Concurrent Enterprise and supports the goal to share and exchange the latest developments in this domain. Each individual, organisation, network or project with an interest or expertise in is welcome to join CE-NET. The network management committee will decide upon request of the organisation about its acceptance.

The Co-ordinator will develop guidelines for newcomers that shall inform the new members briefly about the network and its rules in order to facilitate their integration by means of a public version of the Project Handbook – the New Members Handbook. The categories of new members are set out in the next section.

1.9 Types of New Membership

The following types new of members are envisaged for the CE-NET.

1.9.1 Individual Membership (registered users, persons)

?? Register through website

?? Will mostly not be aware of CE-NET

1.9.2 Corporate Membership (registered companies)

?? Register through the website

?? Company is visible to all members on the website

?? Company description with CE Interests/expertise and CV

?? Needs to be 'serious'

?? Basic services for free, additional services based on payment model under consideration

1.9.3 Network Membership

?? CE-NET members are encouraged to establish links with other networks and where appropriate these networks will be invited to become members of CE-NET.

?? The NMC will decide on how best to integrate this network into CE-NET

?? Can access similar services as Corporate Members.

1.9.4 Projects Membership

A search will be made of related projects currently running in the broad domain of CE and these projects will be contacted and where appropriate these will be invited to be members of the CE-NET.

They will be treated as Corporate Members.

2 CE-NET NETWORK MANAGEMENT

2.1 Composition of the network team

The CE-NET management team comprises the following organisations:

1. University of Nottingham (Coordinator)
2. CE Consulting
3. ESoCE
4. BIBA
5. Framkom

The CE-NET management team on occasions may invite other members, without voting rights, to board meetings that are deemed to be useful for performing its work.

2.2 Management structure

The management of the CE-NET project is organised into three main components as described by the following figure:

1. Network Co-ordinator, supervising the network administration, finance and management, and supported by the Network Management Committee and the Administration Secretariat.
2. Network Management Committee (NMC), responsible for the technical, administrative and dissemination aspects of the network.
3. Workpackage Managers, which also make up the NMC, and are responsible for each operational aspect of CE-NET workpackages.

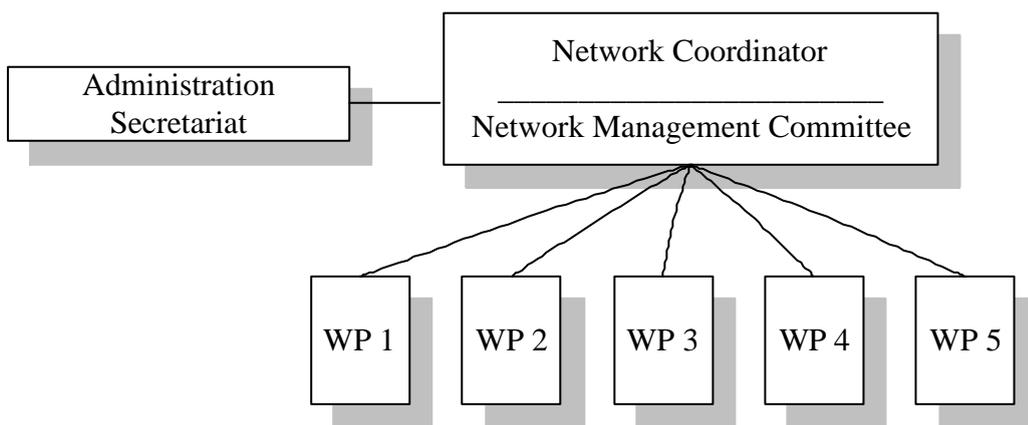


Figure 1: Network management structure

2.3 Members of the Network Management Committee (NMC)

The Workpackage Managers are the members of the NMC. They are responsible for each operational aspect of CE-NET workpackages: strategy development, WWW Services, Dissemination of CE News, CE Networking, CE Brokerage, Network Coordination & Management.

Each partner should nominate a representative to be the Workpackage Manager, who is in charge of the management and the carrying out of the work, for each workpackage, according to the network programme plan (see the DoW – Description of Work document).

After having informed the other partners in writing, each partner shall have the right to replace its representative and/or to appoint a proxy.

In order to reduce the management overhead, the same representative of a network member may fill several positions in the network organisation. However, separate meetings will be organised in order to avoid interference between technical, managerial or other operational issues.

2.4 Network Co-ordinator

The co-ordinating partner (University of Nottingham) has nominated a network co-ordinator (Dr Kulwant S. Pawar) who is responsible to:

1. co-ordinate the overall operational activities of the network
2. represent the network team for any matter external to the network
3. co-ordinate the communication between the consortium, the European Commission or any organisations external to the network
4. issue progress reports every three months with the support of the Network Administrative Secretariat
5. ensure the initial drafting and the follow-up maintenance of the Handbook
6. prepare NMC decisions by investigating any issue or conflict that needs to be resolved for a good achievement of the network goals and ensure that NMC decisions are planned, implemented and tracked
7. organise the quality reviews of the network and ensure that corrective decisions if any are planned, implemented and tracked
8. organise the network reviews with the Commission of the European Union and ensure that corrective decisions if any are planned, implemented and tracked

The network co-ordinator reports to the Network Management Committee.

2.5 Network Administrative Secretariat

The Network co-ordinator is assisted by a Network Administrative Secretariat who has been nominated by the co-ordinating partner and whose main responsibilities are:

1. overall contractual, administrative and financial aspects including the reporting of the network financial and budgetary status to the NMC
2. at the end of every period, collation and submission to the EC of the network cost statements
3. founding and maintenance of the network documentation archive

2.6 Network Management Committee (NMC)

2.6.1 Role, mode of operation & composition

The Network Management Committee has the overall responsibility for the technical, financial, administrative and other operational aspects of the network.

The NMC in particular is responsible to:

1. decide the strategy for conducting the network according to the terms of the contract
2. assessing the impact of any change to the contract suggested by the European Commission and to respond accordingly
3. assess the progress of the network, commission the corrective actions if necessary and authorise appropriate amendments to the work plan in order to meet the network objectives
4. approving the nomination of the work package leaders
5. approving the network handbook and any amendments to it
6. reviewing the policy and strategy for publicity, authorising the Network Description of Work (DoW), and its subsequent revisions as necessary
7. resolving any conflict, technical, managerial or economical that may appear amongst the network team members during the network duration according to the conflict resolution policy of the consortium as defined in the network consortium agreement (NCA).

The frequency of the NMC meetings will be established by the NMC in accordance with the corresponding dispositions of the NCA.

2.6.2 Network Team

Name	CE-NET Role	Telephone	E-mail
Dr Kulwant Pawar (UoN)	Co-ordinator	+44 (0) 115 9514029	Kul.Pawar@nottingham.ac.uk
Miss Angela Scott (UoN)	Administrator	+44 (0) 115 84 66082	Angela.Scott@nottingham.ac.uk
Dr Johann Riedel (UoN)	Technical Co-ordinator	+44 (0) 115 84 66082	Johann.Riedel@nottingham.ac.uk
Mrs Alison Parrett (UoN)	Secretary	+44 (0) 115 9514011	Alison.Parrett@nottingham.ac.uk
Roberto Santoro (CEC)	WP 1 Leader	+39 06 8440 5713	rsantoro@iol.it
Frithjof Weber/ Rene Stach (BIBA)	WP 2 Leader	+49 421 218 5536 +49 421 218 5568	web@biba.uni-bremen.de rst@biba.uni-bremen.de
Ip-Shing Fan (Cranfield)	WP 3 Leader	+44 (0)1234 754073	i.s.fan@cranfield.ac.uk
Dr Kulwant Pawar (UoN)	WP 4 Leader	+44 115 951 4029	Kul.Pawar@nottingham.ac.uk

Marc Pallot	WP 5 Leader	+33 1 4586 4821	m-pallot@imaginet.fr
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3 NETWORK WORKPLAN

3.1 General description

The prime aim of the CE-NET is to establish a well co-ordinated and effective support infrastructure in order to share and exchange the latest developments in the CE domain. This objective will be reached by combining complementary approaches: information will be exchanged in *formal* and *informal* meetings, information will be *pushed* and can be *pulled*, people will come together in *physical* and *virtual* events, results will be based on *individual* or *joint* activities, the network will work on *strategic* and *operational* levels, and nodes can co-operate *actively* or consume *passively*. Thus, the network will support multiple channels of co-operation and will meet the divergent needs of the nodes.

Figure 2 shows the major action lines that will be performed in the network and how they are represented in the workpackage structure. Each workpackage combines a group of similar channels and activities:

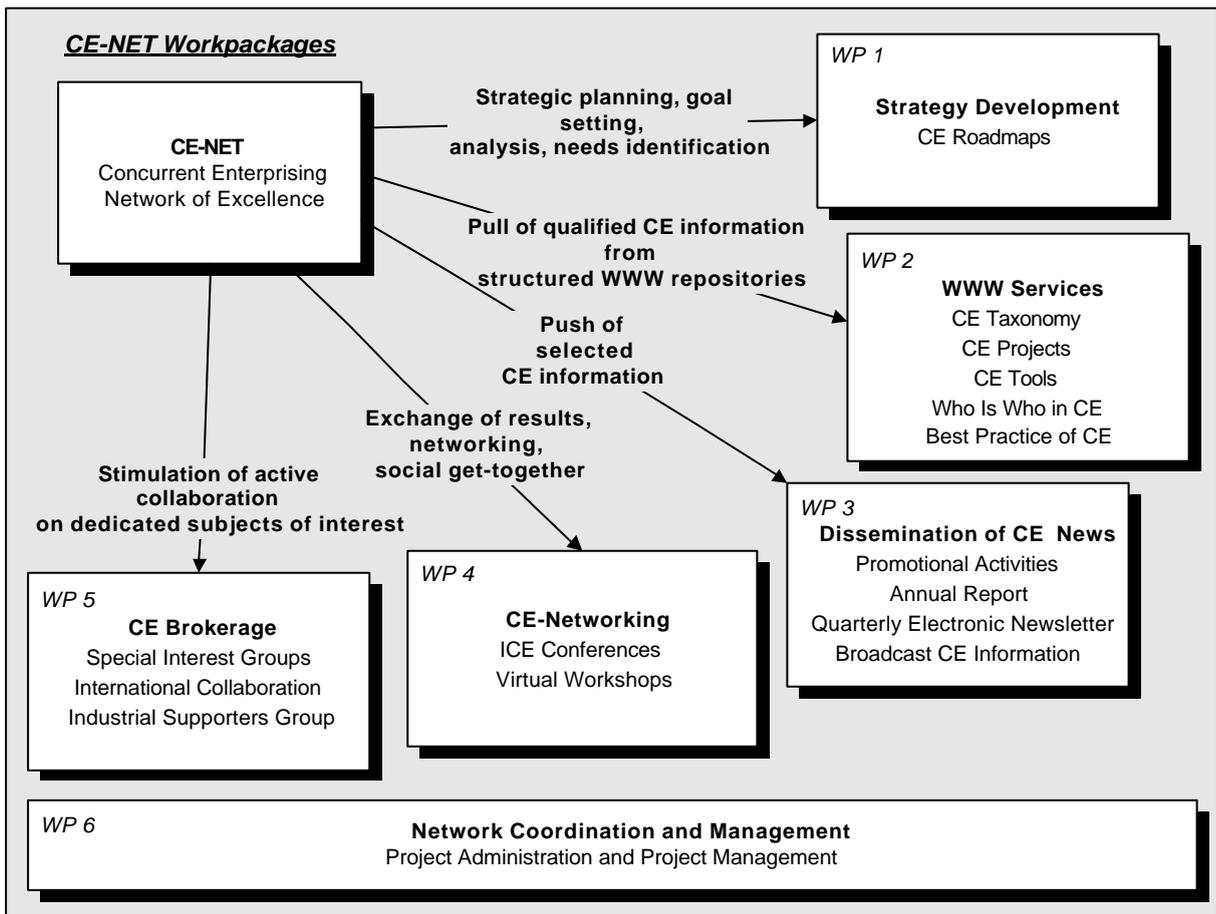


Figure 2: Complementary approaches for sharing and exchanging CE information in CE-NET

WP1 Strategy Development is responsible for the *strategic* orientation of the network and the generation of a strategic vision for future CE RTD activities in Europe. The workpackage represents the ‘think tank’ of CE-NET and defines the direction of the project in regular strategy definition meetings and issuing of 3 annual road map reports.

WP2 CE-NET WWW Services will provide structured Internet repositories with qualified and pertinent CE information for *information pull*. The information repositories developed and populated in CE-NET phase 1 have achieved considerable recognition and access rates. Their specific value was that they provided direct access to selected, qualified, and structured CE information, without confronting the user with a critical information overload of irrelevant subjects. Objective of CE-NET phase 2 is to continue, extend and improve these services with a high level of quality. The existing repositories are the baseline on which phase 2 will start and they will be extended with further information and updated constantly³. A new repository will be set up for making available industrial best practice information to the members.

WP3 Dissemination of CE News will actively *push* CE information to organisations within and outside the network via three channels: The *project brochure* is specifically directed to ‘non-members’ for drawing their attention to the network and inviting their participation.

The *CE-NET annual report* will be produced at the end of each year and it will include a summary of planned activities, achievements, major developments and planned activities and events for the coming year. This will be available in paper and electronic form and distributed to around 1000 recipients. This annual report will be complemented by quarterly *CE newsletters* (electronic format) to inform the CE community about issues like new results, industrial cases, interesting RTD projects, relevant conferences, etc. and thus will stimulate at regular intervals the awareness and current knowledge about CE. The dual approach of a predominantly paper based annual CE report and a regular electronic newsletter will be able to meet the needs of both electronic and ‘traditional’ paper based communities. This way the CE news will reach different sections of the community and thus increase the level of exploitation.

The *customised broadcasting of CE* information will actively distribute individualised CE information to organisations and individuals. It is expected that this specific service will receive strong attention because it will deliver customised and focused CE information according to individual profiles. This may be in the form of e.g., “we know that your company is interested in STEP applications in the maritime industry and would like to inform you that a new STEP processor for AP216 has been developed in project ABC which is ready for usage. For details, please refer to www.abc.de/processorAP216/...”

WP4 CE Networking will organise a series of different events for supporting the exchange of results by physical and virtual meetings. The core event of the network are the *ICE conferences* (International Conference for Concurrent Enterprising) which have gained recognition from a well balanced share of academic and industrial participation and a real European dimension in its

³ As a drawback in phase 1, it was identified that the existing repositories are missing a common look and feel as they are exploiting different software environments (pure HTML, Java, or BSCW). This will be improved and merged into a common interface which gives access to all the repositories with a common look and feel and mutual interlinking so that the user can operate in a unique ‘CE knowledge space’. It will also be evaluated to include different layers of information (public vs. company or supply chain specific) and to allow semi-transparent borders between this information. The objective is to provide the *premier CE knowledge base* for industry and academia in Europe.

audience and contributions. Also, the network will encourage the members to contribute to other relevant events.

A series of *virtual workshops* will address especially the need to exchange results without the need to meet physically. These virtual meetings shall also promote an ‘error tolerant’ environment for the nodes to practice up-to-date communication technologies. Finally, it is also aimed that – besides the formal activities at the different events – the workpackage also provides specific support for informal networking activities at the different conferences and events. This has been proven as being very productive in phase 1 and resulted in a series of new activities of the network members.

WP5 CE Brokerage will encourage the nodes on working in dedicated groups on specific subjects. Basically, these groups can cover every subject of relevance in the CE domain and the result of their activities can be e.g. specific surveys or studies. The initiative to address a specific subject will come either from the strategy definition meetings or from the nodes itself, who will also organise the co-operation in the interest groups themselves. A specific task is dedicated to *international collaboration* which aims to increase communication with organisations especially in the US and Asia in order to exploit the developments which are being carried out there in parallel to European activities. It is also aimed to enrich the network with the international aspects of co-operation with this task. Another specific task called *Industrial Supporters Group* will be targeted specifically towards industry. The prime purpose is to produce a book/pamphlet promoting potential technical and business benefits of CE for industry.

WP6 Network Coordination and Management will manage the project in order to ensure the highest quality of service and timely output of all tasks. The WP will also include the administrative, financial and technical management.

It is important to note that it is not aimed that the network will completely fund the actual execution of all these activities. Instead, the network will be the catalyst, stimulator, or enabler which mainly initiates and co-ordinates the activities. Additional funding for the individual activities (e.g. carrying out a survey) will come from research budgets of individual partners (e.g. permanent academic staff), from other RTD projects, from industrial contributions, or from voluntary work for the network. The network’s major purpose is to co-ordinate the activities and provide support by providing travel budgets and smaller labour contributions.

Finally, it is important to note that CE-NET phase 2 will function as a Concurrent Enterprise itself. It will apply technology that is crucial to a geographically dispersed Virtual Enterprise. It will intentionally not only have physical meetings for activities that require a high level of co-operation among the nodes, but also emphasise virtual co-operation. This will force the nodes to make use of advanced teleconferencing and workgroup tools and thus to demonstrate best practice of Concurrent Enterprising within the network itself.

3.2 Workpackage list

Work package No	Workpackage title	Lead contractor No	Person months	Start month	End month	Deliverable No
WP 1	Strategy Development	CEC	5,75	1	36	D02, D07, D08, D10
WP 2	WWW Services	BIBA	17,5	1	36	D03, D11, D12, D13, D14, D15, D16
WP 3	Dissemination of CE News	SISU	11,25	4	36	D04, D05, D17
WP 4	CE Networking	UoN	9,25	4	36	D18, D19, D20

WP 5	Special Interest Groups	ESoCE	8	1	36	D21, D22, D23
WP 6	Network Co-ordination and Management	UoN	15	1	36	D01, D06, D09, D24
	TOTAL		66,75			

3.3 Workpackage descriptions

3.3.1 WP 1: Strategy Development

Workpackage number:	WP 1: Strategy Development									
Start:	Month 1									
Person months per participant	UoN	ADE PA	BIBA	CEC	DTU	EsoC E	SINT EF	PUB	UNL	VTT
Task 1.1				Leade r						

Objectives

to monitor the current business environment and trends and identify the industrial challenges and needs in the domain of Concurrent Engineering and Extended Enterprising in Europe

?? to define CE research and development needs for short, medium and long term focus (wrt. technology, methods, organisational and human issues, business relationships and networks, etc.)

?? to provide a strategic vision for CE in Europe and define a roadmap for RTD activities

Description of work

Task 1.1: Develop CE Roadmap: The network will monitor and analyse the current trends which have an impact on product development activities in Europe, (i.e. technological developments, market and business trends, political and social tendencies, etc.). The trends will be confronted with the current industrial CE practice and the RTD status quo for defining the future CE research and development needs with respect to competitiveness, social objectives, EC policies, etc.

The responsibilities for analysing the specific trends will be assigned to the individual task members who will continuously monitor them and prepare sub reports. Strategy definition meetings will be held at regular intervals in order to discuss, consolidate and compile the sub reports into overall reports (CE roadmap) which define the strategic needs for CE RTD activities. The roadmap will have to distinguish different sectors and company sizes and will list trends, deficits, industrial requirements, RTD needs, time schedules.

Deliverables

D02: CE Roadmap No 1

D08: CE Roadmap No 2

D09: CE Roadmap No 3

Milestones and Expected Results

Milestones: month 8/20/32: updated CE roadmaps (on annual basis end of June as input for the revision of the IST work programme)

Expected results: – 3 CE roadmaps which define the strategic needs and vision for CE research in Europe

3.3.2 WP 2: WWW Services

Workpackage number: WP 2: WWW Services											
Start: Month 1											
3.3.2.1 Person months per participant	ADEP A	ALFA MICR O	BIBA	Cranfi eld	ECP	PUB	SINTE F	SPIIR AS	UNIN OVA	Uni Twent e	VTT
Task 2.1										Leadr	
Task 2.2			Leadr								
Task 2.3			Leadr								
Task 2.4											Leadr
Task 2.5		Leadr									
Task 2.6							Leadr				

Objectives

- ?? to provide the premier knowledge base on the Internet for CE information for industry and academia in Europe
- ?? to give easy access to information about CE projects, CE tools, CE best practice, and CE persons/organisations
- ?? to develop and maintain a model for structuring this information (CE taxonomy)

Description of work

Task 2.1: Extend CE Taxonomy. The task will provide a taxonomy of CE which structures the complex domain with sufficient level of detail and which is easily understandable for enabling the fast navigation in the knowledge bases. This will be achieved by developing specific, pragmatic sub-taxonomies for different areas, like software development, electronics, or other application areas. The existing taxonomy from CE-Net phase 1 will be refined and extended with these sub-taxonomies.

Task 2.2: Maintain CE-NET WWW Server. The task will run and maintain the central CE-NET WWW server. This includes the hardware and software for the server and the general HTML pages about the project (project description, contacts, members, events, etc.). It will also provide the server software and database management systems for the different repositories (projects, tools, best practice, who-is-who). Log software will measure the access to the site. This task will also re-examine the usability and efficiency of the WWW server to ascertain for ease of access and user friendliness.

Task 2.3: Collect, Classify, Enter and Maintain CE Projects Information. The task will extend the existing CE projects WWW site from phase 1 with new projects. Information about projects will be collected, qualified, classified with the CE taxonomy, laid out and entered into the repository. The project links will be checked regularly for changes. The repository will be populated with at least 150 CE projects (national, European, and international).

Task 2.4: Collect, Classify, Enter and Maintain CE Tools Information. (same procedure as for T 2.3). The repository will comprise methods and tools from all CE areas as e.g. CAD/CAE, organisational and managerial issues, human aspects, problem solving techniques, RP, EDM/PDM, communication and groupware, formal methods, etc. The repository will be populated with a minimum of 100 methods and tools.

Task 2.5: Collect, Classify, Enter and Maintain CE Best Practice Information. The task will set-up a new repository for presenting industrial best practice CE cases. These cases will be investigated in direct interviews from the industrial nodes. Expected reluctance to provide company experiences to the public will be overcome by

facilitating the capturing process, concentrating on non-confidential information, and allowing anonymous (but qualified) presentations. The repository will be populated with at least 25 industrial cases from different application areas and company sizes. This task will also attempt to link to the eEurope's "Go Digital" programme which is currently under development.

Task 2.6: Collect, Classify, Enter and Maintain CE Who Is Who Information. (same procedure as for T 2.3). The task will build a repository of organisations and people active in the CE domain (knowledge owners) in order to support personal and informal contacts and know-how exchange in the CE society. The repository will be populated with at least 200 relevant organisations and/or people in the CE domain. The who is who database will attempt to identify and include experts in CE from outside Europe (for instance the USA and Japan)

Deliverables

D03: CE Taxonomy	D10: CE-NET WWW Server
D11: CE Projects WWW Site	D12: CE Tools and Methods WWW Site
D13: CE Best Practice WWW Site	D14: CE Who Is Who WWW Site

Milestones and Expected Results

Milestones: month 9 all repositories operating, month 18 mid term usage experience, month 36 filling goals reached

Expected results:

- Extended CE taxonomy with sub taxonomies
- CE-NET WWW pages
- CE projects WWW site with 150 CE project descriptions
- CE tools and methods WWW site with 100 CE tool and method descriptions
- CE best practice WWW site with 25 industrial CE cases
- CE Who Is Who WWW site with 200 organisations

3.3.4 WP 4: CE Networking

Workpackage number:		WP 4: CE Networking						
Start:		Month 4						
Participants		UoN	ADEPA	BIBA	CEC	CeTIM	EsoCE	Uni Twente
Task 4.1		Leadr						
Task 4.2						Leadr		

Objectives

- ?? To bring together the CE society in physical and virtual meetings for exchanging information, learning from each other, and working together
- ?? To co-ordinate the organisation of the ICE conferences
- ?? To apply virtual technologies within the network for learning and mastering these technologies by doing

Description of work

Task 4.1: Co-ordinate ICE Conferences. The task will co-ordinate the organisation of the ICE conferences through a core team. It will support the local organisers and particularly ensure continuity in the organisation of the conference and the knowledge transfer between the events. This includes issues like strategic planning, consideration of the interest of the EC, shaping of the programme, promoting of the event, or risk management. The task will co-ordinate 2 ICE conferences.

Task 4.2: Organise Virtual Workshops. The task will organise virtual workshops which will bring together CE experts for working on specific subjects. The workshops will cover both operational and strategic issues. The subjects will be derived from the strategy definition meetings (see T 1.1).

Intentionally, the task does not only aim to bring together the CE society, but also to encourage the nodes in mastering virtual technologies for working in the Concurrent Enterprise. It will pick up virtual methods and tools and enable a 'learning by doing' within the workshops. The technologies will include e.g. collaborative work spaces, video conferencing, distributed document repositories, or WWW based project management. 6 workshops will be organised.

Deliverables

D16: ICE Conferences

D17: Virtual Workshops

Milestones and Expected Results

Milestones: the two ICE conferences (dates to be defined), other activities are ongoing

- Expected results:
- Two ICE conferences with approx. 160 delegates
 - 6 virtual workshops

3.3.5 WP 5: CE Brokerage

Workpackage number:		WP 5: CE Brokerage											
Start:		Month 1											
3.3.5.1	Person months per participant	ADEP A	ALFA MICR O	BIBA	CEC	CeTI M	DTU	ESoC E	SINT EF	Uni Jaume	Uni Trento	Uni Twente	VTT
Task 5.1							Leadr						
Task 5.2								Leadr					
Task 5.3					Leadr								

Objectives

- ?? To react dynamically to topical interests and take up and discuss new trends and developments
- ?? To support the elaboration of particular subjects in special interest groups and to support knowledge development and transfer
- ?? to enrich the network with international activities for preparing the nodes for global collaborations

Description of work

Task 5.1: Encourage and Support Special Interest Groups. The task will stimulate the forming of special interest groups (SIGs) which bring together experts and novices for working on specific subjects relevant for CE. These can be e.g. sector specific (e.g. CE in software development), problem specific (e.g. team building issues in CE) or tool specific (e.g. EDM/PDM for SMEs). Also, they can take either an academic, industrial, or mixed perspective. The SIGs may go beyond the activities of the network, but will publish their findings in short reports.

Task 5.2: Encourage and Support International Collaboration. The task will foster international contacts for bringing together the European CE society with international groups (specific consideration for Japan/Asia and US). This aims firstly to capitalise the international CE knowledge and yet unknown concepts and results for European benefit and secondly to help the nodes in setting up contacts for individual international co-operation. The task will be operationalised by mutual visits, information exchange, invitations for ICE or SIGs, contribution to international events, etc.

Task 5.3 Industrial Supporters Group. The task will be targeted specifically towards industry. The aim is to produce a book/pamphlet highlighting the potential technical and business benefits accruable by moving towards CE practices. It aims to promote the experience of CE-Net members and/or users so as to encourage active industrial participation and/or sponsorship of specific events.

Deliverables

D18: Report on Special Interest Groups D19: Report on International Collaboration
D20: Pamphlet – “Why CE is relevant for your company”

Milestones and Expected Results

Milestones: month 3: identification of first SIGs and plan for international collaboration; month 18: intermediate conclusions; month 36: final reports

Expected results:

- 3 special interest groups and corresponding findings (minimum)
- Increased international collaboration
- Increased utilisation of CE-Net experience by industry

3.3.6 WP 6: Network Co-ordination and Management

Workpackage number:	WP 6: Network Co-ordination and Management		
Start:	Month 1		
Participants	UoN		
Task 6.1		Leader	
Task 6.2		Leader	

Objectives

- ?? to ensure highest quality of service and timely output of all tasks
- ?? to manage the overall project with respect to administrative, financial, and technical issues
- ?? to monitor and report the status of the project
- ?? to take corrective actions if necessary

Description of work

Task 6.1: Project Administration. The task will carry out the administrative and financial management of the project. This includes the co-ordination of contractual issues, the compilation of contractual documents, the collection and processing of the partners' cost statements, the distribution of the individual payment to the partners, the controlling of the overall budget, and the settlement of all financial issues with the Commission. The payments to the partners will be based on the successful fulfilment of the different tasks or sub tasks.

The task will also cover the administrative integration of new nodes into the network and the maintenance of pertinent address lists of the nodes.

Task 6.2: Project Management. The task will carry out the management of the project. This includes the determination of a technical direction of the project, the establishment and maintenance of a technical plan of the project (work plan), the monitoring of the progress of the different tasks, the controlling of the technical status of the work and the co-ordination of the different workpackages, and the recommendation of corrective actions for resolving technical conflicts and ensuring the quality of the outcome. Specific emphasis will be given to the stimulation and co-ordination of the different activities of the individual nodes.

The task will also co-ordinate and compile the project progress reports, organise the project reviews, and co-ordinate all communication with the Commission. It will organise the internal project meetings and answer or co-ordinate the inquiries from the outset. As a baseline for the co-operation of the nodes, the task will provide the project handbook which defines the project standards and guidelines with respect to deliverables, presentations, information and communication flow, etc.

Deliverables

D01: Project Handbook D06: Periodic progress reports (every 6 month)
D07: Periodic management report (yearly) D22: Final project report

Milestones and Expected Results

M1: month 6, 12, 18, 24, 30, 36: evaluation of the status of the project via PPRs, PMRs and final report

Expected results:

- Project handbook
- 3 PMRs, 6 PPRs, cost statements, etc.
- Final project report
- Smooth execution of the project

3.4 Deliverables list

Deliverables list						
Del. no.	Deliverable name	WP no.	Lead participant	Del. Type	Security**	Delivery (proj. month)
D01	Project Handbook	6	UoN	Report	Int	1
D02	CE Roadmap No 1	1	CEC	Report	Pub	8
D03	CE Taxonomy	2	Uni Twente	Report	Pub	3
D04	Project Brochure	3	Uni Tampere	Brochure	Pub	6
D05	Electronic CE Newsletters (every 3 months) and Annual	3	Uni Cranfield	Newsletter	Pub	3,6,9,12, 15,18,21 24, 27, 30, 33, 36
D06	Periodic progress reports (PPRs, every 6 month)	6	UoN	Report	Int	6, 12, 18,24, 30, 36
D07	Periodic management report (PMRs, yearly)	6	UoN	Report	Int	12, 24
D08	CE Roadmap No 2	1	CEC	Report	Pub	20
D09	CE Roadmap No 3	1	CEC	Report	Pub	32
D10	CE-NET WWW Server	2	BIBA	WWW site + report	Pub	36*
D11	CE Projects WWW Site	2	BIBA	WWW site + report	Pub	36*
D12	CE Tools and Methods WWW Site	2	VTT	WWW site + report	Pub	36*
D13	CE Best Practice WWW Site	2	ADEPA	WWW site + report	Pub	36*
D14	CE Who Is Who WWW Site	2	SINTEF	WWW site + report	Pub	36*
D15	CE Broadcasting Service	3	Cranfield	Mailing	Pub	36*
D16	ICE Conferences	4	UoN	Conference	Pub	36*
D17	Virtual Workshops	4	CeTIM	Workshop	Pub	36*
D18	Report on Special Interest Groups	5	DTU	Report	Pub	36*
D19	Report on International Collaboration	5	EsoCE	Report	Pub	36*
D20	Pamphlet for industry	5	CEC	Report	Pub	18
D21	Annual report	3	Uni Cranfield	Report	Pub	14, 26, 36
D22	Final report	6	UoN	Report	Int	36

**Int. Internal circulation within project (and Commission Project Officer if requested)

Pub. Public document

* These deliverables provide ongoing results/services. The ‘delivery date’ represents the official end of the task (which is the end of the project). At this point in time the task will provide a formal report about its activities (including description of concept, approach, implementation, performance measures, etc.). However, the delivery itself will be a continuous activity throughout the project and the status of the task will be monitored by milestones and reported in the project progress reports.

3.5 Project planning and timetable (Gantt Diagram)

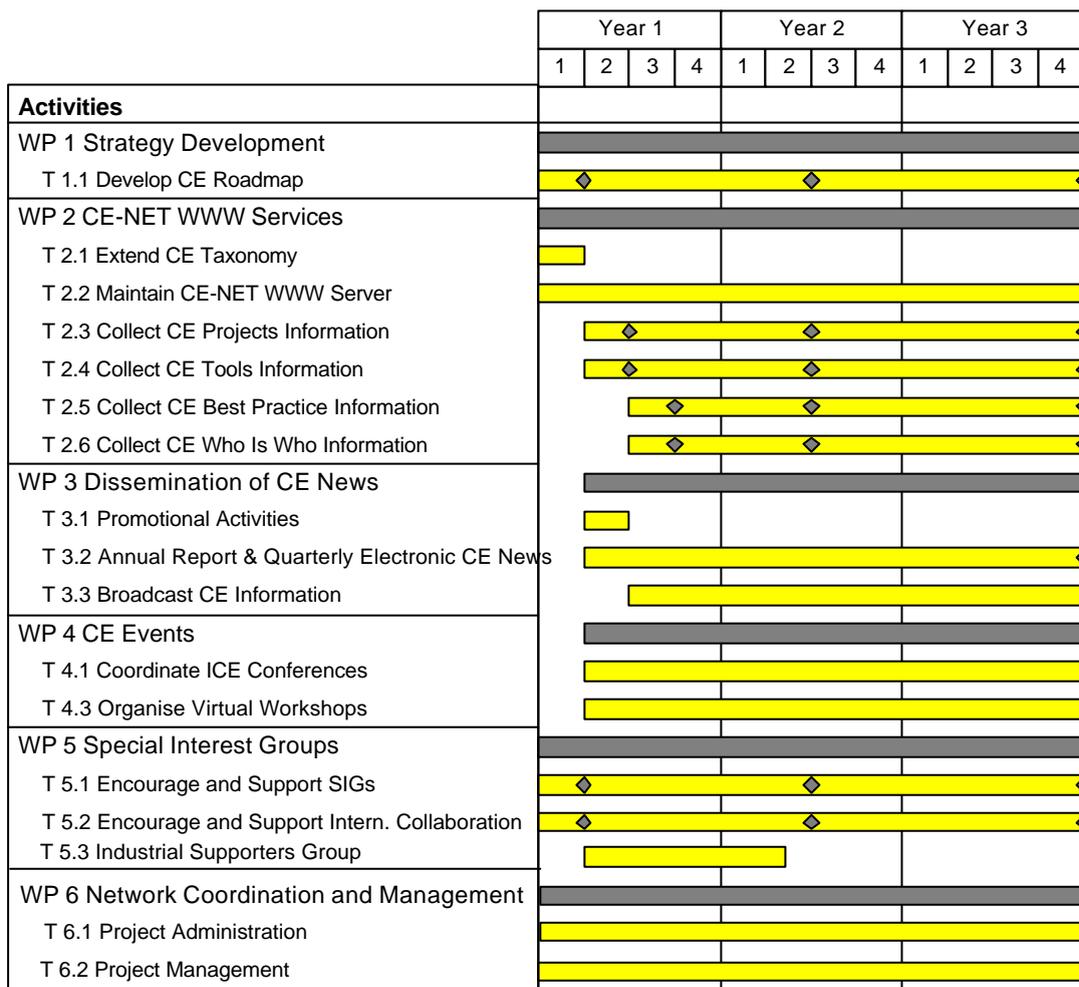


Figure 3: The project plan for CE-NET

4 CE-NET INFORMATION INFRASTRUCTURE

The following goals have been set:

1. To communicate by electronic mail as far as possible.
2. To inform on the availability of documents by electronic mail as far as possible.
3. To circulate deliverables in electronic form to all participants to the network
4. To provide electronic means to comment documents, to provide feedback, advice, etc. .

Different tools have been put in place to enhance the efficiency of communication between the partners. They are:

1. an electronic mail reflector,
2. WEB sites
3. a CE-NET Central Documentation Database, and
4. a Bug Tracking System for Electronic CE-NET Problems Reports (KPRs).

They are described hereafter.

4.1 CE-NET e-mail reflector

A network expander has set up to be used for informal exchange of information between members such as invitations to meetings and workshops for example.

The address of the reflector is:

CE-NET@CE-NET.org

Other emails will be set up:-

info@CENET.org

Primarily for use by new members seeking initial information. This will be published on the CE-NET website

Angela.Scott@nottingham.ac.uk – For use by any existing or new members to pass information to others or to obtain information. Angela is the central contact and administrator for the Project.

Other lists are also under consideration and these will be sent to members in due course.

4.2 CE-NET web site

4.2.1 Location

A CE-NET Web site has been set up and for dissemination of the network information:

<http://www.CE-NET.org>

The CE-NET web site offers the possibility to advertise and promote the network to outside bodies: other networks working in the same domain, interested individuals or organisations.

The content of the CE-NET web site is defined by the NMC. Once the NMC has approved the proposed content, ECP will update its content accordingly. Similarly, links to other web sites, either from partner's sites or closely related projects should get the agreement of the NMC.

5 NETWORK CONTACT LIST

The latest contact details will be available on the CE-NET website.

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6 CONCLUSIONS

We hope that this handbook has been useful in familiarising yourself with CE-NET, it's management, it's function and services. The latest information will be available on the CE-NET website: www.ce-net.org .

7 REFERENCES

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