## FINAL PUBLIC REPORT

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Title: Harmony – Coping with the Complexity of Business Innovation


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# 1.    Project overview

The HARMONY Project  was funded by the European Commission under No. EP29700 in the Esprit Program of the 4th framework program and was recognized as a research project under the "Intelligent Manufacturing Systems" (IMS) umbrella. The European module started in October 1998 and terminated in December 2002 and was funded with about 2.5 Mil.€ at a total project budget of about 5 Mil.€.

Under the heading "Harmony – Coping with the Complexity of Business Innovation" HARMONY pursued the vision of a significant increase of success chances of start-up intentions. The target group encompassed every party involved in the start-up support process, such as start-up coaches, centres of innovation and technology, investors, business angels, and the entrepreneurs themselves. Focus was the enhancement of quality of the support process as well as improved communications between the parties.

**Consortium composition and Roles of partners**

| Partners | Main Roles |
|---|---|
| Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e. V. (FhG) Leonrodstrasse 54, D-80636 München, Federal Republic of Germany as legal entity acting for and on behalf of its<br><br>Fraunhofer-Institut für Fabrikbetrieb und -automatisierung (IFF), Magdeburg | European Coordinator,<br><br>Research, Test Cases, Product Development |
| UI GmbH (UI)<br><br>established in Germany, Poststraße 35-37, D-71229 Leonberg | Associate Contractor to IFF |
| Réseau CCSO<br><br>established in Switzerland, Route du Jura 37, CH-1700 Fribourg | Interregional Coordinator (IMS),<br><br>Research, Test Cases, Product Development |
| Done Solutions Oyj (DONE)<br><br>established in Finland, Tukholmankatu 2, FIN-00250 Helsinki | Software Development |
| Institute for Manufacturing Strategies (IMS) GmbH<br><br>established in Germany, Sandtorstraße 23, D-39106 Magdeburg | Software Coordination, Product Development |
| ICARE Institut de Recherche en Informatique et Télématique (ICARE) established in Switzerland, Technopole, CH-3960 Sierre SCOOP Résonance SARL (SCOOP)<br><br>established in France, 166 boulevard du Montparnasse, F-75014 Paris | Software Development |
| Fundacion TEKNIKER | Research |

| established in Spain, Avenida Otaola 20, E-20600 Eibar | |
|---|---|
| BIC Berrilan<br><br>established in Spain, Barrenengua 3, E-20600 Eibar | Test Cases |
| University of South Australia (UNISA)<br><br>established in Australia, GPO Box 2471, Adelaide 5001 | Research, Training Development |

**Main achievements**
The main achievements are summarized in the following:
• The Harmony 4 Stage Reference Process
• The Harmony system
• Harmony Solutions SA
• Exploitation Potential

The Harmony 4 Stage Reference Process
The start-up support process is designed to increase the success rate of start-ups and not to substitute their own process of creating a new company. The Harmony support process for start-ups is based on a 4-stage model:
• Business Opportunity Screening (BOS)
• Business Model Building (BMB)
• Business Plan Building (BPB)
• Business Plan Implementation (BPI)
In between the stages, gates are defined which have to be passed in order to go to the next stage. These gates are checkpoints for quality control and under the responsibility of the process owner.  As it is well known, quality cannot be ensured by control only. Quality has to be built all along the process, task by task. Therefore these gates are not substituting formal milestones or stop/go decisions on the operational level. These decisions are taken inside the different stages and they are under the responsibility of the case manager or a dedicated decision body.
When checking at a gate, the start-up project (case) has to fulfil a number of checkpoints. If this is not the case, the project cannot be moved further on and some improvement has to be made.

The Harmony system
The Harmony system is designed to increase success in commercialising new technologies. It offers an advanced CRM tool with process- and knowledge management functions. Its main components are:
• the Harmony network management methodology;
• the Harmony knowledge management methodology;
• the Harmony knowledge library that is used by case managers who work in commercialisatiion support organisations such as incubators and accelerators;
• the integrated Harmony network and knowledge management SW-plaform;
• the dedicated training and service facilities.

Harmony Solutions SA

Exploitation by business creation: Harmony Solutions S.A. is a spin-off of the international R&D Harmony-project running from 1998 – 2002. This project was launched and supported by the global R&D initiative IMS (Intelligent Manufacturing Systems) as well as by the European 4th Frame Program and other national R&D agencies. It was considered as a strategic project expecting hands-on solutions to the increasing demand for tools and management methodologies in the area of professional business innovation support. Throughout the Harmony project, a unique set of tools, knowledge, and  management methodologies (called Harmony system) was developed and practically validated. In order to assure long term sustainability of these assets, the Harmony project consortium agreed to transfer the related intellectual property rights (IPR) to the spin-off company Harmony Solutions S.A. This happened in December 2002 by the signature of the Exploitation Agreement. The company was set up 18 November 2002 by several partners of the Harmony project consortium

Exploitation Potential
The methodologies, network, and tools built into the Harmony system help case managers (the „end-users") to work with inventors and entrepreneurs to take a new technology idea into the market as a new business.
Harmony Solutions S.A. focuses on the emerging market of networked and knowledge based organisations. Within that broad market, Harmony Solutions S.A. will occupy the global niche market of "IP evaluation and start-up business support process". Incubators, start-up support initiatives and start-up related governmental decision makers are the target market in this field. There is more and more evidence, that industry and service organisations are looking for operational management and ICT-solutions in the combined areas of networking, knowledge management, and adaptive, operational value chains. Basically, the Harmony systems responds to this needs. In many workshops, presentations, and discussions with people within and outside of the Harmony main target group, the Harmony system was considered as one of the most promising approach. Today, this system can be considered as "leading edge" solution world-wide.

# 2. Project objectives

**Background and Motivation**

Business innovation is the key to translating invention into market success. The focus of HARMONY is on supporting *business innovation* of start-ups operating within or servicing innovative and technology-oriented branches. In that area the following challenges occurred and are still occurring:

- Only a minimal part of today's technology potential, of good ideas and inventions lead to business innovation, wealth, and employment.

- Less than 50% of the newly created enterprises are still active after 5 years.[1]

- More than 74% of all young entrepreneurs are having problems with the successful introduction of business innovations[2] .

- 80% of all SMEs do not have enough capital resources to introduce successfully technology innovations in the market[3] even though there is enough capital available[4].

- In addition to all this, there is a huge number of entrepreneurs who do not create their own business because they do not find the necessary capital or their business knowledge is too poor.

This can be traced back to the fact that an excellent entrepreneur does not necessarily have to be an excellent business man. In this context many support organisations and many investors complain about the missing management capabilities of entrepreneurs on the one hand as well as about the missing entrepreneurial education at the colleges and universities on the other hand.

Inquiries show that financial aspects are regarded as the most important problems by the entrepreneurs, followed by deficient management capabilities see figure 1.
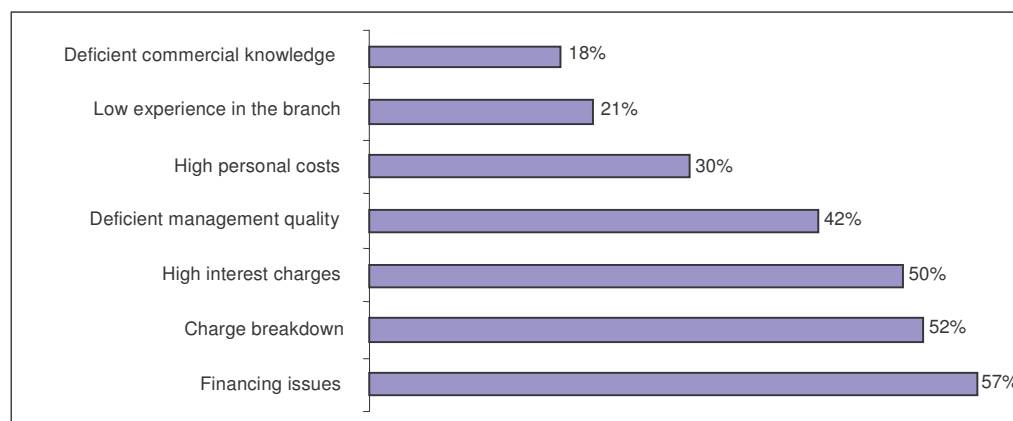


| | |
|---|---|
| Deficient commercial knowledge | 18% |
| Low experience in the branch | 21% |
| High personal costs | 30% |
| Deficient management quality | 42% |
| High interest charges | 50% |
| Charge breakdown | 52% |
| Financing issues | 57% |

Figure: Major Entrepreneurs' Problems approach[5] [6]

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[1] Enterprises in Europe, Fourth Report", December 1996
[2] imn, 1997
[3] Fraunhofer Magazin 1997
[4] There are numerous public funds both on national as on European basis providing capital for start-ups. Examples are: Different ERP, Futour, German KfW, etc.
[5] From: Bundesverband der Volksbanken und Raiffeisenbanken, Germany, 1999

The financial calculation holds the highest risk when starting a business. Often the finances are inadequate: revenue expectations are to optimistic, the financial mix (equity vs. liability) is not adequate and financial needs are calculated not far enough in advance. On the management side, entrepreneurs too often lack specific knowledge in the addressed branch and in fields such as marketing, strategy etc.

These results underline the need for support tools and methods, that lead to successful business innovation. Among others the main needs can be summarised as follows:

On the one hand entrepreneurs need support on the management side, and support institutions need methods and tools dedicated to help entrepreneurs in these areas to reduce existing deficiencies in innovation projects. On the other hand investors (mainly private and small investment institutions) need support to better evaluate projects with regard to their financial liability in order to maximise their ROI and to reduce the finance problems of entrepreneurs.

**The overall vision**

The overall vision of HARMONY is a significant improvement in the support of innovation processes as well as the articulation and communication of business strategies and planning to stakeholders such as partners, investors, employees, customers, suppliers, etc. This vision was to be realised by researching, developing, and evaluating an integrated – "harmonised" - and multimedia-based support system for business innovation to improve the above mentioned shortcomings of the innovation process in smaller organisation.

Its main objectives are:
*   to improve the success of innovation projects by providing entrepreneurs and support institutions with a general supporting infrastructure based on guides, methods, tools, knowledge, and practical examples, covering the most relevant aspects of business innovation. On the one hand these will help to reduce the lack of completeness in the preparation of innovation projects but even more important it will help to support start-ups throughout the whole process. It will lead to a positive *quality effect* on innovation projects and hereby to increased trust of potential capital investors and project partners.
*   to improve the quality of decision making of private and governmental investors by offering tools for evaluating company values as well as human resources.

In this way, Harmony would improve the competitiveness of the European industries in providing them with methods and tools to cope with the globalisation and the market changes.

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[6] See: Sparkasse Jounal "Wirtschaft und Markt: Sonderheft für Existenzgründer und junge Unterhemer", p. 36, 1999

# 3. Methodologies

The workplan has been prepared in close co-operation with R&D sites, investors and envisaged users in order to guarantee best possible acceptance and a leveraged diffusion of the results. The organisation of projects ensures regionally embodied clusters for «integrated support and test cases». International co-operation as well as mutual exchange of experience is defined on various levels of the HARMONY organisation.

In order to realise the advances over the existing state-of-the-art, five different methodologies were basically applied:

1. **Integrated Support and Test Cases**
   Besides standard quality management on project management and software coordination as well as on product development level, a further way to ensure the project's success was the continuous evaluation of the prototypes performed through strong co-operation with the intended target group users and experts as the prototypes evolve. This was derived by a large community of test cases and by regular Circles of Experts in the partners' nations.

2. **Methodology for Harmony knowledge management and codification**
   The Harmony knowledge codification management approach aims at supporting Knowledge managers in their daily work. The approach chosen and created is "Task based management": a process management approach allowing for high adaptivity. This approach can be used where processes have to be highly customised and where planning is difficult due to a turbulent environment. It consists of the following parts:
   1. Define knowledge codification strategy,
   2. Manage knowledge codification strategy implementation,
   3. Codify Reference Processes and Reference Tasks,
   4. Validate codified knowledge.
   5. Codify Reference Knowledge is not available yet.

3. **Methodology for market observation**
   Constant market observation was performed by all partners in the EU including Switzerland, the US, Australia and Japan. Collection of "Competitor-of-the-month" information on which are made accessible to the whole consortium. Extension of the survey capacity by establishment of "Circles-Of-Experts" on a national basis constituted by representatives of relevant stakeholders of business innovation projects (entrepreneurs, investors and support institutions).

4. **Methodology for analysis of competing solutions**
   Analysis of relevant competing products and solutions by dedicated task forces constituted by the most concerned project partners. The Business Plan Writing tool might serve as an example. Several competing products could be identified and were tested by the partners inside the consortium who were responsible for the development of related products. This testing was mainly supported by the involvement of entrepreneurs having already used such tools.

## 5. Methodology for Harmony solutions development

Clear responsibilities have been assigned for each deliverable, each task and each work package assuring the appropriate fulfilment of the relevant activities. The overall integration is assured by the definition of cross work package interdependencies and frequent meetings both on work package as well as on inter work package level. When the project reached the phase where the final products became more evident the older deliverable structure was complemented by a second dimension – a product management dimension. This led to a matrix organisation within the project which enabled a strong orientation on market needs and a real focus on commercialisation aspects for the Harmony products.

# 4. Project achievements

## 1. The Harmony 4 Stage Reference Process

### Stages and tasks of the Harmony support system for start-ups

What follows is a short resume of the stages and tasks of the Harmony support system for start-ups, which is the base of the practical field work with technology based innovation projects and start-ups. A more detailed description is available in the Handbook, in deliverable 2.6.1 or directly in the KBT.

### Introduction

When talking about supporting start-up companies we distinguish two main processes.
The first process is the start-up process of the new company. This is the dedicated path the team of entrepreneurs decided to go to move an idea onto a new company. The path to go is different from one start-up to another and it is under the total responsibility of the entrepreneurs. A lot of books are describing the process to start-up a new company and many companies are started and still will be started without a support organisation intervening.

That is where we come to the second process, which is the process of supporting the start-up of a new company. This process is the business process of the support organisation and has thus to be designed by it.
The way a start-up is supported is different from one support organisation to another and the intensiveness of the interaction with the start-up process of the new company depends from the business model of the support organisation.

The support process is designed to increase the success rate of start-ups and not to substitute their own process of creating a new company.

**start-up company and start-up support process**
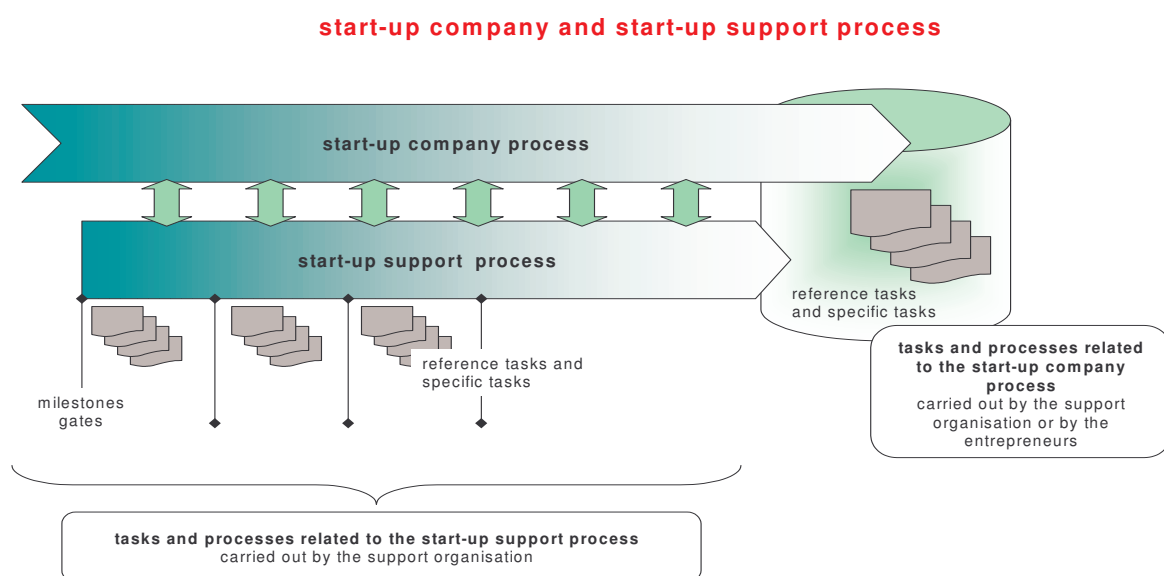
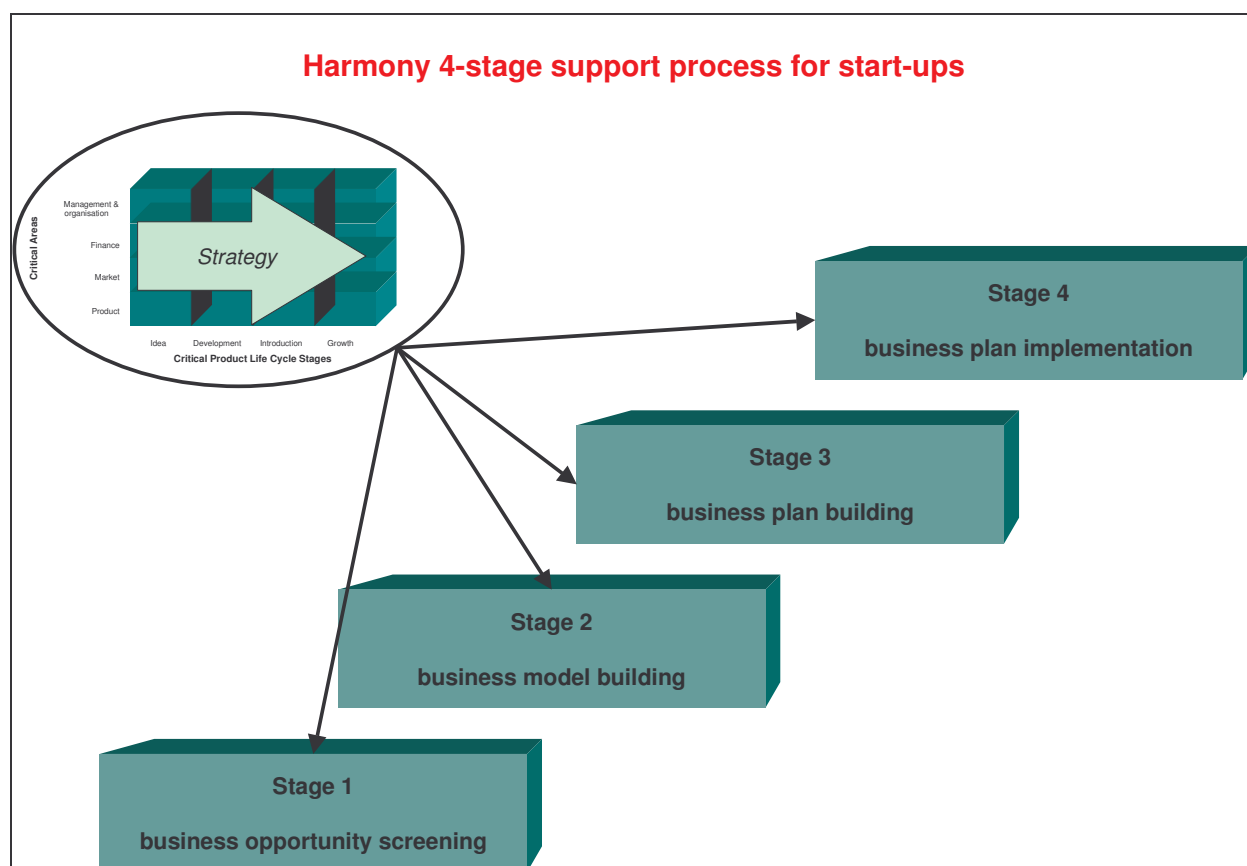**The Harmony 4-stage support process for start-ups**

The Harmony support process for start-ups is based on a 4-stage model.
The 4 stages are:

1. Business Opportunity Screening (BOS)
2. Business Model Building (BMB)
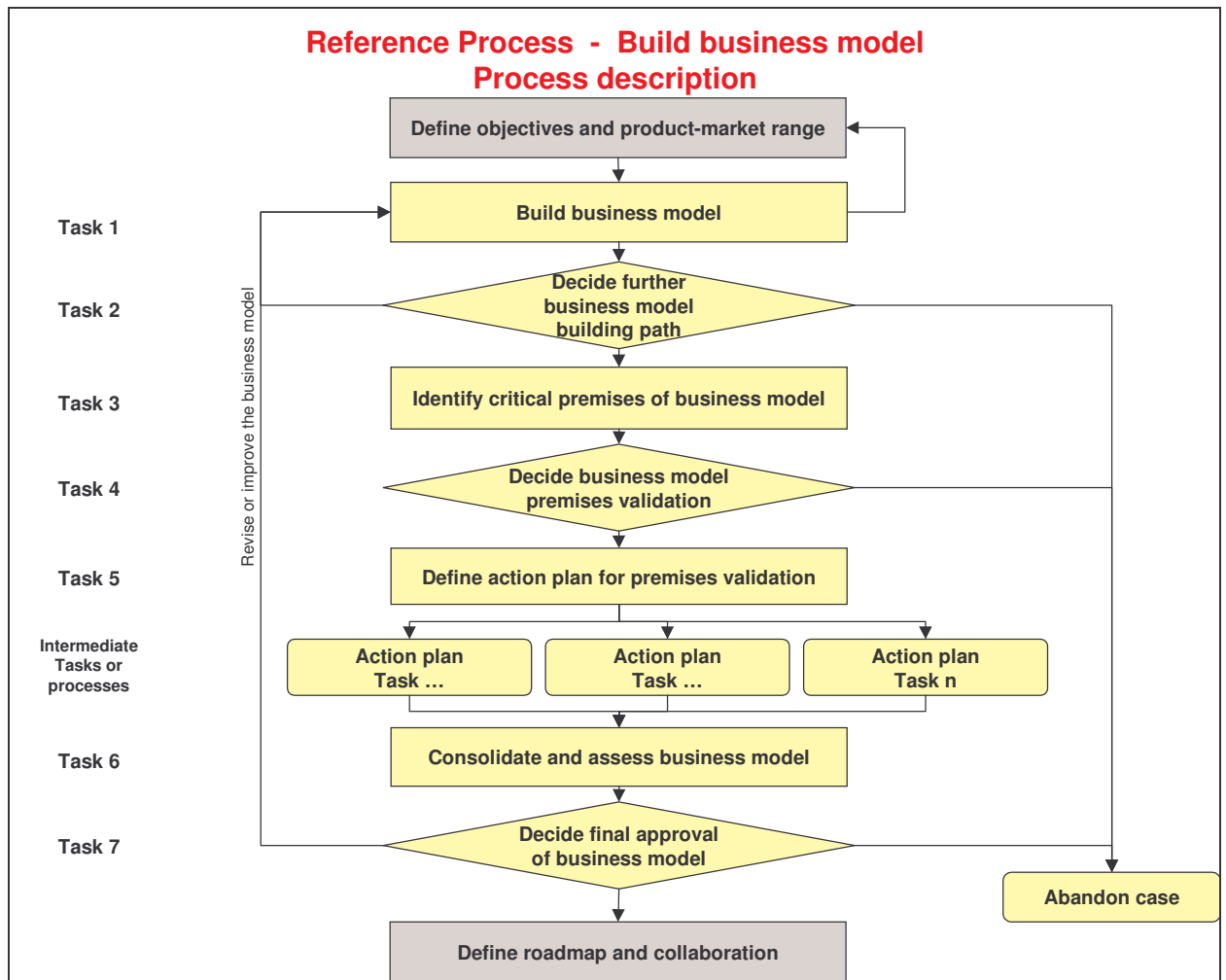3. Business Plan Building (BPB)
4. Business Plan Implementation (BPI)

In between the stages, gates are defined which have to be passed in order to go to the next stage. These gates are checkpoints for quality control and under the responsibility of the process owner.
As it is well known, quality cannot be ensured by control only. Quality has to be built all along the process, task by task. Therefore these gates are not substituting formal milestones or stop/go decisions on the operational level. These decisions are taken inside the different stages and they are under the responsibility of the case manager or a dedicated decision body.

When checking at a gate, the start-up project (case) has to fulfil a number of checkpoints. If this is not the case, the project cannot be moved further on and some improvement has to be made.

An example is given for one of those Reference Processes which are built into the Harmony Knowledge Library:

**Reference Process  -  Build business model**
**Process description**

| | |
|---|---|
| Task 1 | Define objectives and product-market range |
| | Build business model |
| Task 2 | Decide further business model building path |
| Task 3 | Identify critical premises of business model |
| Task 4 | Decide business model premises validation |
| Task 5 | Define action plan for premises validation |
| Intermediate Tasks or processes | Action plan Task …    Action plan Task …    Action plan Task n |
| Task 6 | Consolidate and assess business model |
| Task 7 | Decide final approval of business model |
| | Abandon case |
| | Define roadmap and collaboration |

Revise or improve the business model

## 2. <u>The Harmony system</u>

The Harmony system is designed to increase success in commercialising new technologies. It offers an advanced CRM tool with process- and knowledge management functions. Its main components are:

- the Harmony network management methodology;
- the Harmony knowledge management methodology;
- the Harmony knowledge library that is used by case managers who work in commercialisatiion support organisations such as incubators and accelerators;
- the integrated Harmony network and knowledge management SW-plaform;
- the dedicated training and service facilities.

**Core Project Result: The Harmony System**

Harmony is an international network system to support technology commercialisation that:

➢ uses a global database that is accessed through a web browser over a secure link

➢ Includes commercialisation processes and tools, a knowledge library and collaborative networking tools that are designed to help technology incubators increase their success in creating and developing start-ups.

The Harmony system provides:

➢ an entrance tool which enables secure access to the Harmony system and allows investors, experts and other potential users to register

➢ a knowledge base tool which is an international best practice database system for case managers and incubator managers

➢ an innovation project configurator which is a sophisticated document handling system used to prepare business cases and business plans

➢ an on-line training and help system to help the user make best use of the whole Harmony system and an on-line accreditation system for the case manager

➢ a collaboration platform providing real-time communication and cooperation for networked and virtual teams
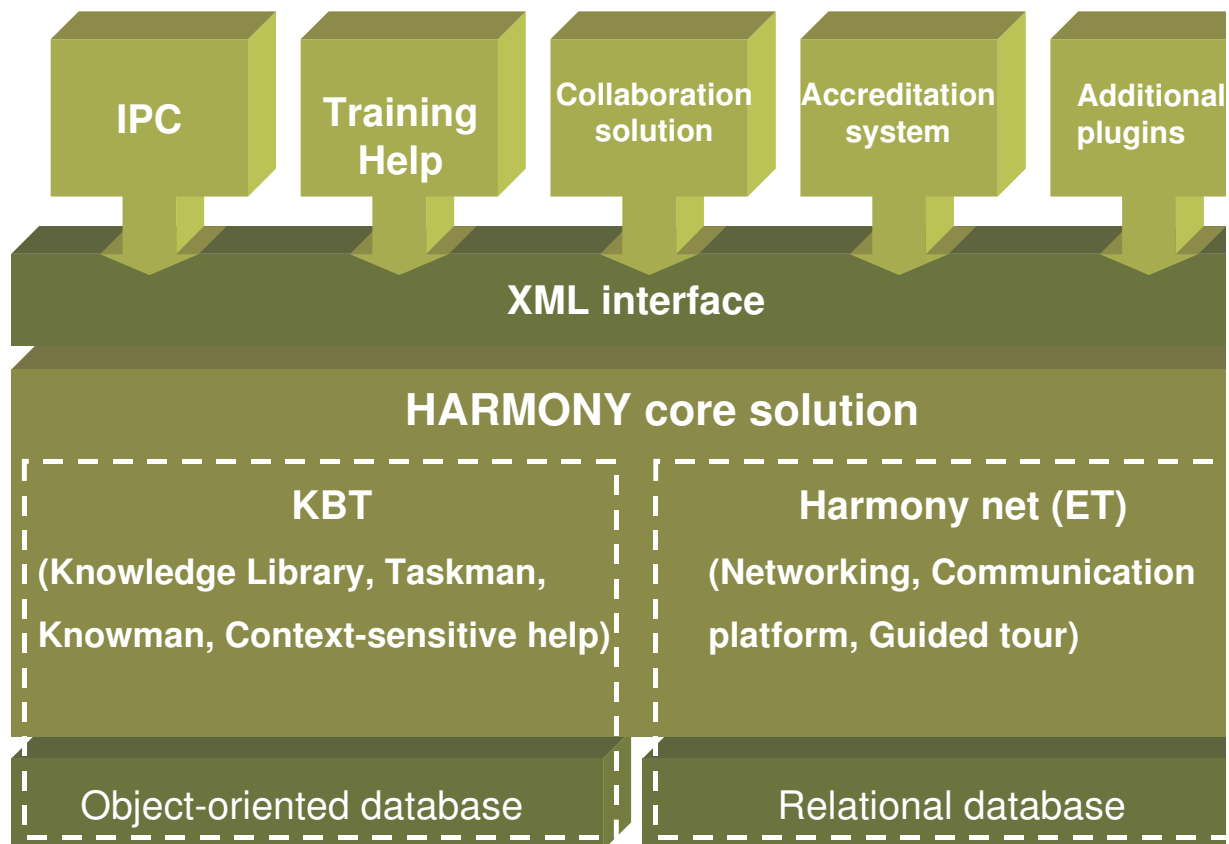
Figure: Harmony product portfolio and basic platform

**The Harmony System Modules**

The Harmony system contains 4 main software modules[7] built upon the Harmony Methodology. The generated knowledge content is linked into the modules.

- Knowledge Base Tool (central component called KBT)
- the Harmony Training Module (separate and built into the KBT)
- Innovation Project Configurator (add-on into KBT)
- Entrance Tool (public interface of system)

For a more detailed description of these see below and the following overview graphic:

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[7] please not that we speak of "3 main products" – KBT, IPC, ET – as these were the working titles of the bigger software units during the first 3 project years, but we result in just "1 Harmony System" with "4 main modules" – KBT, Training, IPC, ET.

KBT - Knowledge Base tool

The Harmony Knowledge Base Tool (KBT) is an international database system that provides the major functionalities of the Harmony System. It is designed to be used by case managers (or coaches or business development managers) who are employed by incubators to help inventors take their ideas through to the market place as successful start-ups. The KBT is the daily working tool for the case manager and is accessed over a secure link through a web browser. In particular, the KBT includes:

➢ a "reference" support process for start-ups that has been extensively tested. Users can adapt the process to suit the industry or situation that your incubator deals with. Alternatively, users can build in their own codified support process that then becomes the standard for their incubator (or incubator network or cluster)

➢ a knowledge library for users. It includes a wealth of materials, models, frameworks and documents relating to incubation support processes and commercialisation processes

➢ collaboration and networking tools that allow users to locate lead users, experts and potential collaborators from around the global network of Harmony users who might be in a position to help their start-up take their product or service to market locally or around the world

➢ a management information system and reporting system for the incubator that allow internal and external benchmarking

➢ a security system allows the user to control access to the database



Figure: KBT cockpit

Training and help system

The Harmony System is supported by:

➢ an on-line training and help system to help the user make best use of the whole Harmony System

➢ an on-line accreditation system for the case manager which is based on a thorough analysis of the competencies required to be a proficient case manager.

The Harmony training system will be further developed to include an on-line Masters degree in incubation management and technology commercialisation. The Accreditation and Masters programs will provide a professional development program for case managers that will open up job possibilities and job mobility around the worldwide network of Harmony incubators.



Figure: Training Module
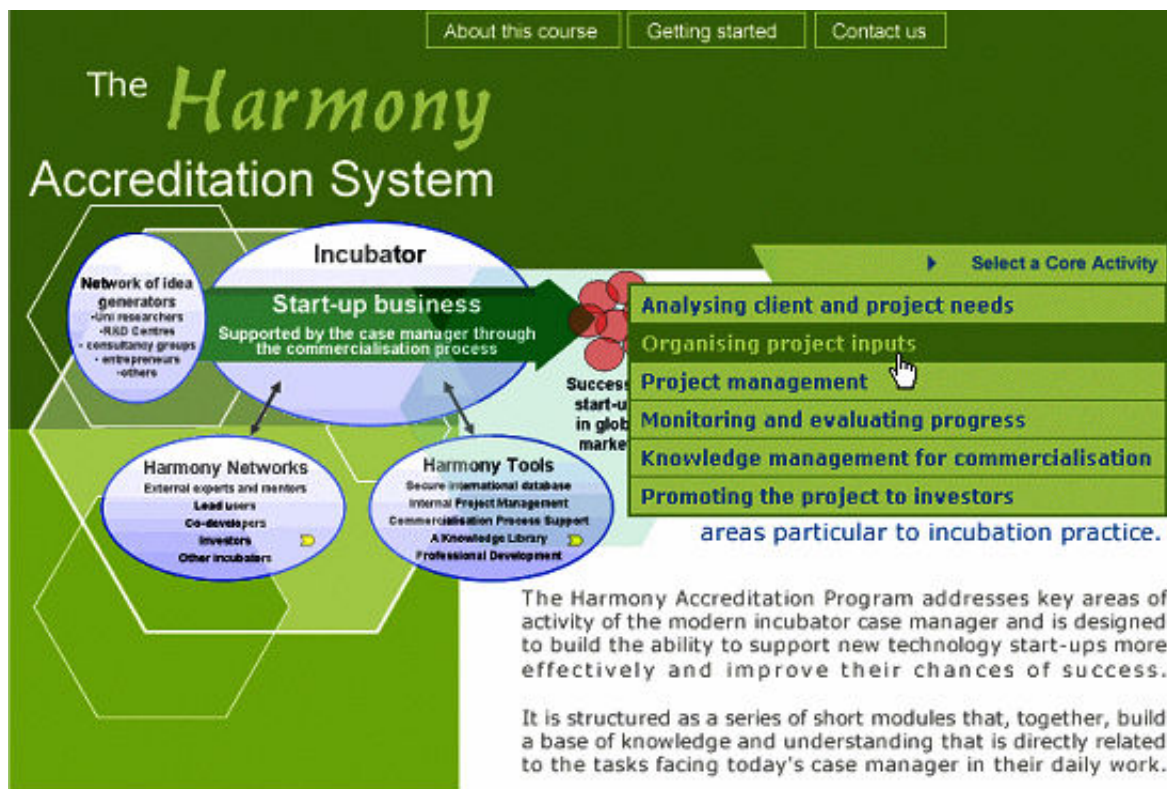
IPC - Innovation Project Configurator

The IPC is a sophisticated document handling system that is used to prepare business cases and business plans. It is being developed to link to the information that the case manager has entered into the KBT. This means that business plans will be able to be developed quickly and professionally without having to re-enter information already recorded.
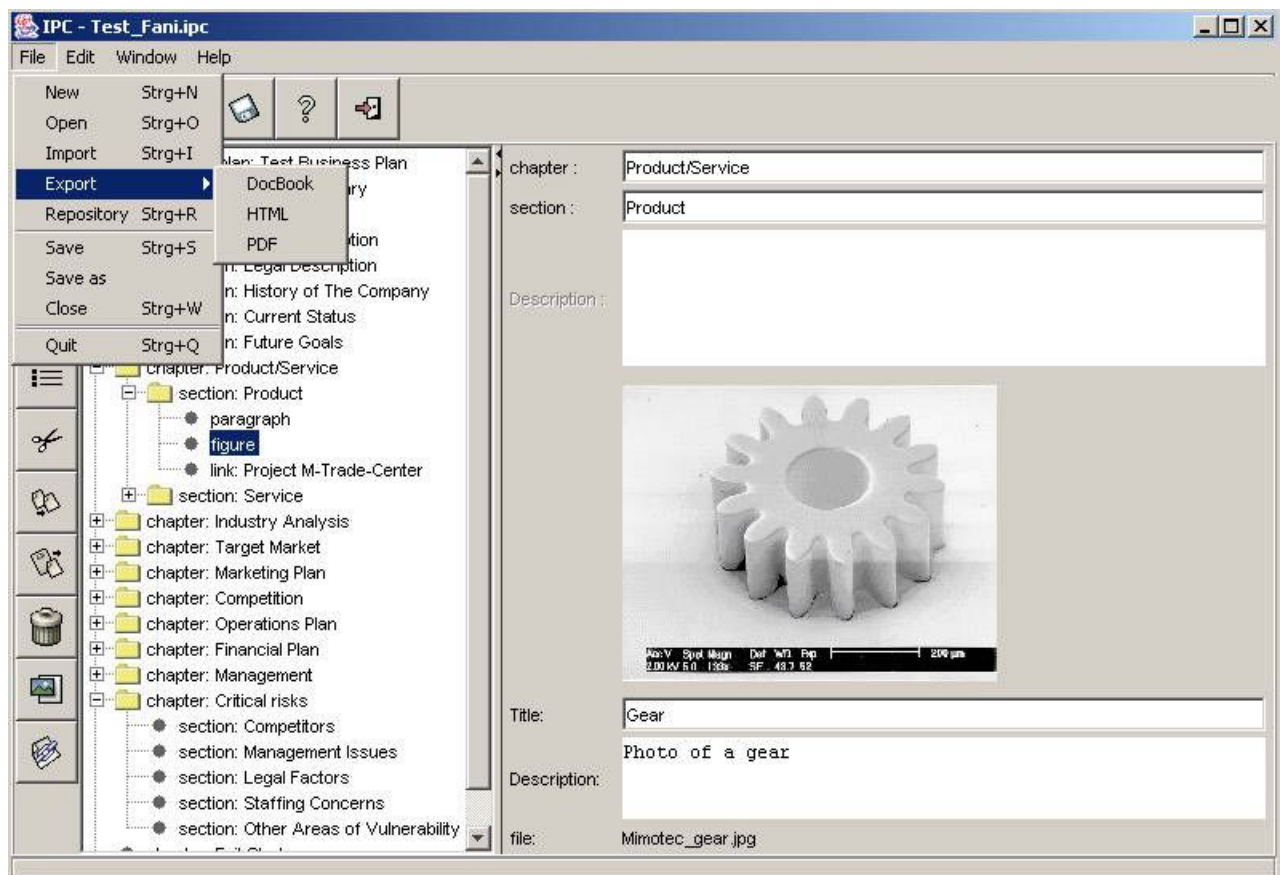
Figure: IPC Screenshot

ET - Entrance tool
The Entrance Tool is the access point for the whole Harmony system. It is accessed through a secure web browser and provides viewers with information about the Harmony System and the way that it is used to help to create successful start-ups. It allows investors, inventors and experts to register to become part of the international Harmony network. The ET is combined with the Harmony Conferencing solution: In order to allow for social contact, communication and creativity over the internet, the Harmony meeting room was integrated offering web-conference meetings on the latest state-of-the-art integrating the strenghts of visual support of the Web including all its features of shared presentations etc. with the strengths of the personal contact by traditional telephony.
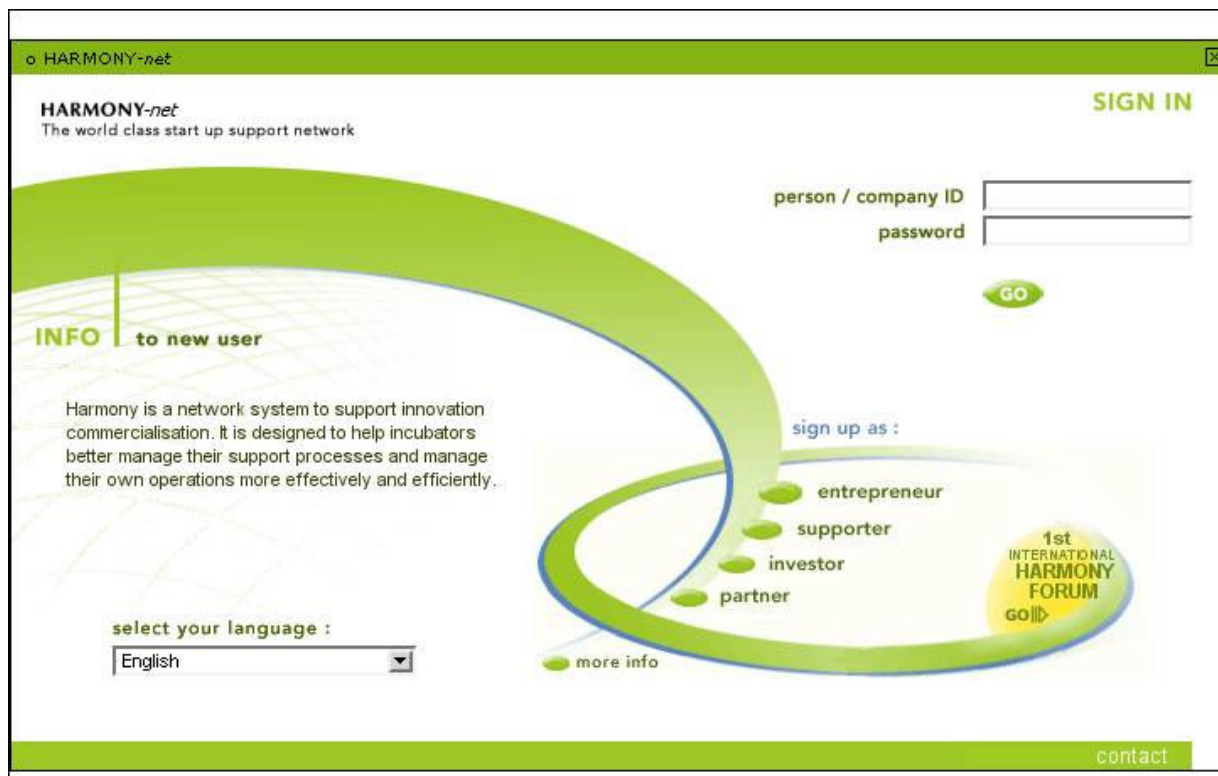
Figure: ET main page

**Main benefits of the Harmony solution**

The Harmony network system is a breakthrough in technology incubation management. It is a sophisticated software support system designed by experts working in technology incubators to improve their operating efficiency and effectiveness.

The Harmony System offers:

➢ a "reference" support process for start-ups that has been extensively tested. Incubators can adapt the process to suit their industry or particular situation. Alternatively, incubators can build in their own

➢ codified support process that then becomes the standard for their own incubator (or incubator network)

➢ a knowledge library that includes a wealth of materials, models, frameworks and documents relating to support processes and commercialisation processes

➢ collaboration and networking tools that allow users to locate lead customers, experts and potential collaborators from around the global network of Harmony users

➢ a management information system and reporting system for incubators that allow internal and external benchmarking

➢ a security system controls access to the database

➢ an on-line training and accreditation system for the user (for the incubator manager or for case managers or coaches)

### 3. Harmony Solutions SA (refer also to the Annex: Newsletter)

Transition Scheme of Entering into the Market (from "Project stage" to "Product stage):
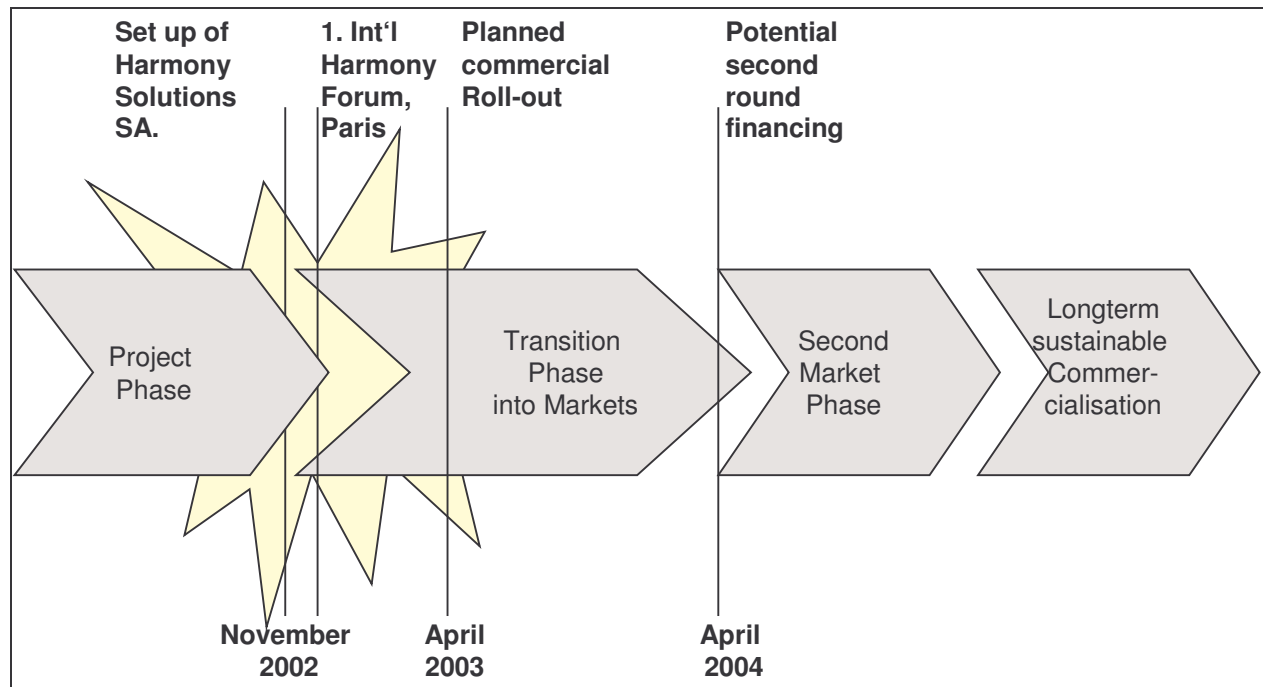


What follows is an interview with Faris Sabeti, CEO of Harmony Solutions SA as it was used for promotion and information purposes short while ago:

"It was on November 19th 2002 that Harmony Solutions SA, the company assigned to the commercialisation of the Harmony System, was inaugurated. Endowed with a capital of 105,000 francs, it has three shareholders: the CCSO, the German business advisory firm IMIG and the Swiss Research Institute, Icare. It has above all a director «very excited» with the idea of meeting this «stimulating challenge». An interview follows with Faris Sabeti, responsible for coaching with the CTI Start-up and first CEO of Harmony Solutions SA.

**Why did you accept this post?**
Harmony Solutions SA is the fruit of a certain idea, a vision of the network management of knowledge and people. People, notably the collaborators of the CCSO, whose professionalism and commitment impressed me a lot, moreover support it. I, for my part, bring my experience, an excellent mixture of knowledge, notably technical, and a long practical experience in business, coaching and company support. *

**Harmony is conceived above all for coaches.**
It is effectively a tool for coaches, for support organisations for companies working in high technology. The start-ups that these coaches support will also benefit. Harmony makes possible the improvement of the quality of the coaching and professionalizes it. It thus strongly increases the success chances of start-ups.
The economic situation creates new challenges. To go on the market is more and more difficult for companies. A coach can no longer act alone. Harmony intends to facilitate his work by giving him access to the best methods – in negotiation, transfer of technologies, patents, etc. – and specialists from different fields (finances, law, distribution, etc.). Harmony is THE solution for coaches, insofar as it has been developed for them, according to their needs.

**Where are you in the development of the different Harmony tools?**
The system is operational. We are now in the implementation phase. The CCSO has already used it. The CTI Start-up is going to begin to use it and to start entering data in March. This will allow us «to consolidate» the system and will help us to commercialise it to a larger public: to have customer references is vital for sales. We have already begun to canvass potential customers.

**The system can only function if its users feed it with data.**
Feeding with knowledge is indispensable for all databases. It is a dynamic process. The full support of its users is necessary for the system to be a success. It is necessary to create new behaviour patterns, a new way of thinking within companies. Harmony is not only a product, it is a solution that brings benefits to its users, but it also requires a certain commitment by them. Although Harmony is very efficient it will never replace human contact and it must never replace it. Business above all is the stories of people. It is of course about products and new technologies, but it's people who create their success.

**How do you intend to sell the Harmony System?**
We will sell directly and indirectly, using distributors – ideally, company support organisations – that will undertake the selling of the system as well as its maintenance and follow up. We must now identify competent, credible distributors and train them.

**Which markets are your priority targets?**
We have international aims. Firstly however, we intend to really concentrate on certain specific markets. We will start with Switzerland, for reasons of proximity. Contacts have also been made in Germany, in Spain and in Britain. Australia, thanks to our partners there, figures among our priorities.  Southeast Asia represents a huge market that we intend «to attack» in the second quarter of 2003.

**What are the next steps?**
The year 2003 is going to be a year of preparation, of setting up the necessary elements for our growth and our international development. We are going to test different markets, to identify our customers, to train our distributors, finalise the pricing policy, etc. This year must allow us to prepare and to make Harmony better known. 2004 will be the year of our big launch.
This project is extremely motivating. It is fascinating to help towards the creation of value, to meet people from different fields. It is no longer work for me, it is really a pleasure.


* Faris Sabeti worked during 20 years in the information technologies industry, he created his own company, had the functions of coach and advisor to companies, participated in the creation of the Chair in Entrepreneurship and Innovation at the Ecole Polytechnique Fédérale, etc. "

## 4.  Exploitation Potential

What follows is an overview summary of the Harmony Project evolving into the Harmony exploitation body as as it was used for promotion and information purposes short while ago:

**"Harmony Summary**

The European project, which was begun four years ago, has today reached its end. It has given birth to an original management solution, devised by coaches for coaches. A company has just been created to commercialise the system.

The figures are stark, just 6 out of a 100,000 original ideas will result in the creation of high tech firms quoted on the stock market. Worse still, half of the start-ups working in the high technology market and supported by risk capital, go bankrupt in the first five years of their existence. «We already knew this in 1998, when the Harmony project was launched. But the challenge is even more important today», admitted Christoph Meier, director of the CCSO, one of the main partners of the project.

Lack of professionalism in the preparation of a project, in the setting up of a company, as well as problems of communication between the entrepreneurs and their partners (the investors notably) and the resulting absence of a common vision are all implicated.

It was from the will «to counterbalance these negative effects» and, consequently, increase the rate of success for innovative industrial projects that Harmony was born. Launched during the 4th Framework Programme of the European Union, then integrated with the international project IMS (Intelligent Manufacturing Systems), it was intended to manage the complexity that surrounds all innovation. It did this by using the raison d'être of the Harmony system, which is today its strength: an international network of experts and specialists in coaching.

Harmony has since the start developed itself around cooperation between the different actors in the support for innovation: consulting and computer science companies, incubators and company support organisations, universities and business schools, investors and business angels. It has of course made partnerships in Europe–and in particular in Switzerland, through the intermediary of the CCSO, in Germany, in Finland, in France and in Spain–as well as Japan and Australia.

Harmony is however different to many support projects for innovation in that it is not intended just for start-ups, but also those firms that accompany them on the path of creation and development: the company company organisations, the incubators, the centres of innovation and technology as well as the business angels. It places at their disposal tools likely to reinforce appreciably the quality of the support process and, consequently, increase the success chances of the start-ups that they accompany.

**To be inspired by the best methods**

The idea at the heart of the whole Harmony project is to seek inspiration in the best existing methods concerning company support. Ideas and experiences developed in this domain from throughout the world are united particularly those of the 3000 incubators recorded internationally. Different approaches are confronted and available information is shared so as to professionalize coaching.

«The number of incubators doesn't stop increasing, particularly in Southeast Asia. We realize however that it is very difficult to find professional coaches. Most coaches are former entrepreneurs or young people with a weak industrial experience», noted the director of the Australian Harmony Project, Peter Balan, from the University of Southern Australia, one of the original partners.

Harmony, developed by coaches for coaches, offers its users a certain number of strategic and operational tools intended to facilitate and to improve the efficiency of their intervention in companies. It puts them in contact and allows them to work on common projects or to seek inspiration in the work of the other users of the system for their own projects.

### Preserving knowledge

Harmony was conceived to operate with no particular software other than an Internet browser so as to facilitate communication between its members: all the data contained in this knowledge platform is directly accessible via the web.

The user can find there a lot of necessary information for their daily work, starting with a reference process for companies in four stages–based on the model of the support process for innovation which inspires the CCSO in its activities–, a helpful tool for Business Plan writing, as well as training modules.

Users also «feed» the system with their own experiences and projects. The work supplied by experts with diverse skills constitutes a real knowledge library concerning support for innovation.

«We have transformed an ad hoc process –insofar as there hasn't existed, until now, any system for professional coaching: each coach applied his own method, his own ideas, etc. –in an industrial process, the coach's profile, his training or his approach are clearly defined», explained Paul - André Vogel, responsible for the support for innovation with the CCSO network.

The system has also overcome one of the main problems which company support organisations confront. «Until now, revealed Paul - André Vogel, when a coach left, he took with him his tools, his contacts and his experience, because very little had been written down and the majority of information rested in his head.»

It had therefore become urgent «to preserve this knowledge», to model the processes–but not to standardize them: Harmony offers a framework without constraints–, so as to be able to put the knowledge thus acquired at the disposal of other specialists in company support.

### Pilot users

The Harmony Project finished officially in 2002. The first international Harmony Forum, was held in Paris last November 28th and 29th, and united no less than a hundred international participants: experts in coaching, directors, etc. It allowed the presentation of the different tools available for system users.

The computer tools – Harmony's Entrance Toll, the data base (KBT) and the software for writing multimedia Business Plans – are in place. The knowledge library is beginning to take shape.

The first on-line training programmes are also ready. The University of Southern Australia under the direction of Peter Balan who has a long experience in this area, is working on a system of help in the use of Harmony, as well as on different training modules for  coaches. A first step towards a Masters in Commercial Technologies and Incubation, entirely online, that the Australian partner hopes to launch towards the middle of the year.

Some pilot users have already tested the system. «What attracts people, it is the fact that the system is open, that it allows users to incorporate their own methods, their tools and their processes. It is not a unique solution applicable to all situations, but rather a tool that allows people to work more efficiently. The potential of Harmony is, in this respect, enormous in as much as we have, at present, no direct competitors», affirmed Peter Balan.

Some developments are of course still in progress, but the bases of support for quality in companies, and in particular for start-ups, have been established. It is henceforth beyond the framework of European programmes where the adventures of Harmony will continue, particularly, within the brand new structure created to market the system: Harmony Solutions SA. "

# 5.    Synergies with other relevant projects

For reasons of enhanced synergy the following projects and initiatives have been accessed during the project time span:

There has been a whole list of projects contacted over the 4 years and evaluated for synergetic potential. Resulting from this, many relations still exist and are utilized in further development, dissemination and exploitation of the Harmony System.
Some have come to a special relevance to Harmony and are closely followed even beyond project life time:

| | |
|---|---|
| European level: | • European Knowledge Management Forum |
| | • Gate2Growth (high potential exploitation synergies) |
| | • PAXIS cluster project |
| | • KT web project |
| | • NimCube project – New-Use and innovation measurement and management. |
| Switzerland: | • VENTURO project |
| | • First Tuesday, Geneva, CH and Luxembourg region |
| Germany: | • Train IT |
| | • Exist Transfer Projekt BEGiN |
| Spain: | • FEBT Project |

# 6. Implications on standards

- The Harmony methodology is beginning to set international standards of best practice as can be seen by the unwavering interest and adoption of the "Harmony four phase process" by the major Swiss governmental entity "CTI Start-up" (http://www.ktistartup.ch) who is going to be the first commercial customer. *The CTI Start-up* has no fully implemented the new coaching process which is based on the Harmony four stage reference process and inspired by the Harmony philosophy. The new coaching process is shown below and the fatherhood of harmony is clearly visible.
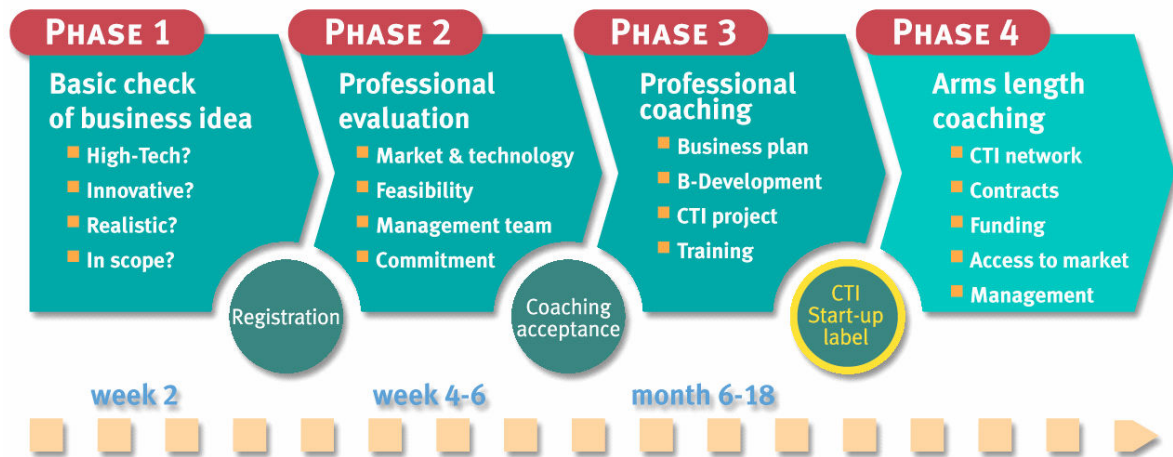


Figure: The CTI Start-up reference process

- For the Harmony software itself we have been validating and monitoring on an ongoing basis the compliance of Harmony Products with regard to emerging ISO-Standards as well as the cost and profit of such a certification. These are the results:

- Software engineering standards: To assure a software engineering process which guarantee results in time, quality and budget a deep knowledge and expertise about software engineering standards is necessary, especially if you have to work in international, virtual teams. Especially during the last project period where the software engineering process was more than ever focused on the development of a marketable solution, the application of a standardized process was crucial for the success of the project. That is why we undertake a basic analysis of the most important software Engineering standards and processes. These major processes are: Configuration Management, Design, Documentation, Function Point, Human Factors, Integration, Maintenance, Medical Device Standards, Project Management, Quality, Requirements Definition, Safety, Security, Test, and Verification and Validation. It does not mean anyhow that we used all or any of these standards in the project, but more adapted some of the useful approaches to our own process.

- Certification of software: Even if we promised the full system security using the most sophisticated technology available today it does not fully convinced some our prospective customers. Rather some of them precisely asked for some kind of independent certification. That was the reason to consider an ISO certification. Even if there is today no „global certification with global valid standards" there is a trend

    

towards this direction, also according information we got from the EU. Furthermore a certified software solution would be a differentiation from competitors. Together with a company specialised in software ergonomics IMS GmbH has evaluated the user interface of the IPC (and KBT) and has developed a concept for an appropriate GUI that meets basic requirements concerning ergonomic aspects, CI and usability for the internet. The GUI will provide the possibility for certification according to international standards as ISO/IEC 12119, BS7799, and DIN EN ISO 9241 Part 10. Anyhow the latest evaluation of the costs and efforts necessary to carry out an ISO certification according offers from external companies convinced us not to skip but to postpone that issue. We will keep a close eye on the development in this field.

- The new semantic approach looks very promising. Semantics is regarded as one of the key technology / methodology in the Knowledge Management area (see 6 FWP).

# 7. Benefits to society

Harmony set itself the challenge to improve the competitiveness of the European industries in providing them with methods and tools to cope with the globalisation and the market changes. In order to focus itself, Harmony has targeted on the facilitation and qualification of start-up support allowing for more and better start-ups in the end. As the main thrust of the Harmony System is to enable more qualified and professionalized start-up coaching the chances of the entrepreneurs are growing in proportional relation to it. Not only for reason of better guidance and better access to knowledge resources needed, but also for better chances of financing the particular case, because of the trust the "Harmony label" is increasingly gaining with investors.

**Main benefits of the Harmony solution**

The Harmony network system is a breakthrough in technology incubation management. It is a sophisticated software support system designed by experts working in technology incubators to improve their operating efficiency and effectiveness.

The Harmony System offers:

➢ a "reference" support process for start-ups that has been extensively tested. Incubators can adapt the process to suit their industry or particular situation. Alternatively, incubators can build in their own

➢ codified support process that then becomes the standard for their own incubator (or incubator network)

➢ a knowledge library that includes a wealth of materials, models, frameworks and documents relating to support processes and commercialisation processes

➢ collaboration and networking tools that allow users to locate lead customers, experts and potential collaborators from around the global network of Harmony users

➢ a management information system and reporting system for incubators that allow internal and external benchmarking

➢ a security system controls access to the database

➢ an on-line training and accreditation system for the user (for the incubator manager or for case managers or coaches)

Besides this main aspects, Harmony has the potential to benefit to EU society w.r.t the following aspects:

Social aspects:
On the one hand, the percentage of employees in the industry decreases continuously. The reason for this lies in the steady increase of productivity in the last years with the result of more and more unemployment in all industrialised countries. Paradoxically, big and multinational enterprises profit from the new conditions of industrial production. These companies are continuously augmenting their turnover and at the same time they dismiss more and more employees. On the other hand, it is proven that mainly SMEs and start-ups create new jobs. Thus, in terms of employment and wealth, it is more important to support SMEs and start-ups than to support big companies. Methods and instruments dedicated to improve the capacity to innovate for these SMEs and start-ups

should have a considerable impact on their growth and therefore on the labour market. The target group of HARMONY are start-ups and their supporters. In this way, HARMONY will help to create new jobs by means of facilitating qualified support of start-up projects. This will help to reduce unemployment and will contribute to social peace. More successful start-ups also means for quality of life for the individual, because of more competence for self-actualizing.

Environmental aspects:
Environmental issues are becoming more and more important and they are generated to customer requirements, too. These issues are taken into account in the thematic modules, especially in those for Product and Service Concept and Enterprise and Factory Planning. The HARMONY knowledge library makes it possible to share and handle the best suited resources for a particular innovative situation which has to cope with environmental aspects. This knowledge area has been developed to some extent within the project (e.g. methodologies to ensure that the planned industrial sites, factories and their product and services are as environmentally friendly as possible like green label, environmental audit), but will be even more a strategic field of knowledge development afterwards on an ongoing basis.

# 8. Deliverables and References

Harmony ended after a two months expansion of its planned time span at 14th December 2002. Overall work progress has been made in accordance to the project schedule and the project is resulting in a  product for which a clear pathway to exploitation has been developed.

**Basic Workpackages:**

**WP1 - Work progress overview of workpackage 1: Backbone**
**WP1 - Objectives**
WP1 focuses on the conceptional design of the Harmony solutions. According to the defined focus on the three main products - Entrance tool (ET), Innovation project configurator (IPC), Harmony knowledge base tool (KBT) - work in deliverables of work package 1 has to support the specification and design of these products. This has to be realised in parallel and interaction with the deliverable oriented work plan.

The and backbone of the methodology and the conception of the products as well as the concept of the overall integrated Harmony system has been acccomplished and finalized in the previous reporting periods. So the results were used, the whole system resting on the valuable work done within WP1, but no deliverables were due here.

**WP 1- Work Summary**
The work on WP1 is accomplished according to the schedule of the workplan.
Over the project time until today the following work has been done on the deliverable side within WP1:
- Del. 1.1.1: Evaluation of current Business Plans
- Del. 1.1.2: Accepted general Business Plan
- Del. 1.1.3: Business model for the business plan to define scenarios and enable simulation (Financial Simulator Software)
- Del. 1.1.4: List of requirements of investors
- Del. 1.1.5: Characteristics to classify users
- Del. 1.1.6: Structure of the Harmony Cooperation Network
- Del. 1.2.1: Logical Structure of Harmony
- Del. 1.4.1: Success Factors for Start-ups (Reference Process for Sales Planning)
- Del. 1.5.1: ET Concept Documentation

**WP2 - Work progress overview of workpackage 2: Integrated Support and Test Cases**
**WP2 - Objectives**

The overall objective of workpackage 2 is to contribute to the development and evolution of the integrated Harmony support system, through:
- Identification of end user requirements for an integrated innovation support.
- Feedback and validation, each test case must provide feedback that allows to adapt the support system to the end user requirements and to develop the training package.
- Creating cultural impacts, a common language and a shared vision between the stakeholders.

**WP 2- Work Summary**
The work is accomplished according to the schedule of the workplan. Over project time until today the following work has been done on the deliverable side in WP2:
- Del. 2.1.1: Requirements for the Knowledge Base Tool
- Del. 2.2.1: "Results of the backbone (product interaction) application and improvement needs (validation pilot application)"
- Del. 2.2.3: "Documentation of HARMONY showcases"
- Del. 2.2.4: "Installation of Content System feeding continuously the ET
- Del.2.5.1: "Identification of requirements for patterns of successful start-up businesses"
- Del. 2.6.1: "Task descriptions for the Task Manager"

**WP3 - Work progress overview of workpackage 3 : Software**
**WP 3 - Objectives**
The following chapter covers the overall description of the progress of „WP3 – Software" made so far over the last project periods. It is a summary of the efforts which were undertaken to develop the final Harmony software solution including the main core modules KBT, Harmony Net (ET), IPC, a conferencing solution and the training system and their main interactions.

Even if the training aspects will be covered by a separate workpackage (WP4 Training) it is necessary to consider it also in the „WP3 Software" because also major efforts were spent on software engineering and development of the training and help solutions as well as their interaction with and integration in the already existing software modules.

Based on a deep evaluation of the requirements of the different target groups together with their user profiles and the consequently different product philosophies, it became apparent that the software products will not be integrated in technical sense, meaning the usage of only one software platform. E.g. the IPC is a stand-alone software that can be used without internet access while the KBT and the ET is programmed as an ASP (Application Service Provider) application on the internet.

This finally means that the interaction (more than integration) between the single components happens on a contextual level with the objective to provide a holistic solution which support the end-user along his value chain without having media or application breaks.

In order to be able to develop a software solution which supports the clients business in a best way - and not determine it - it is necessary to understand this business. That is why we used during the last project period a new approach able to analyse business processes which was provided by IMS GmbH. The Communication diagnosis (KODA) approach and solution is based on the OPR semantic (Organisation, Process, Resources) and thus clearly object-oriented with objective to identify, analyse and optimize business processes along the customers value chain. Using an object-oriented approach already during the analysis phase of the software engineering process we closed the gap between business and software perspective.

Based on the results of this analysis main efforts were put in the development of the the KBT which is now based on the new semantic network architecture and to adapt and extend the already existing modules towards this new chosen basic software architecture.

Beside that state-of-the-art technology the improvement of the graphical user interface was the key factor. To be able to handle the complexity of information the KBT now uses a "Cockpit" like user interface. That means a well structured overview where the

end-user have only the important information on the screen and which allow the easy navigation through these information.

Summarizing we can state now that even if the decision to change the basic architecture of the core products from a Microsoft determined technology towards a state-of-the-art-technology using Java and XML as basic technologies was a "risky" decision the work progress in work package 3 has been made in accordance to the new and updated schedule.

**WP 3 – Work Summary**

Work is accomplished according to the schedule of the workplan. Over the project time until today the following work has been done on the deliverable side within WP3:

- Del. 3.1.1: Harmony programming conventions and standards accepted and practically used by the software houses
- Del. 3.1.2: Internet based environment and procedures for the Virtual Software-Team
- Del. 3.1.3 Plan for virtual and physical exchange of SW-Team members
- Del. 3.2.1 Description of information and object types
- Del. 3.2.2 Glossary of Harmony terms
- Del. 3.2.3 Entity-Relationship-Diagrams
- Del. 3.3.1 Description of the preliminary software concept
- Del. 3.3.2 SW concepts for prototype II
- Del. 3.5.1 Prototype I
- Del. 3.5.4 Prototype II
- Del. 3.5.7 Prototype III: KBT (Task Manager and Reporting Function); IPC (KBT and ET integration)"
- Del. 3.6.1 PR and marketing materials for the Network, Material for the ET"
- Del. 3.7.1 Completed Harmony Software Products
- Del. 3.8.1 ET Final Software"
- Del. 3.8.2 KBT 2nd version (Task Manager)

**WP4 - Work progress overview of workpackage 4 – Training**

webpage: http://www.cde.unisa.edu.au

**WP4 – Objectives**

Users of Harmony (e.g. Case Managers) will access a training system to help them to use each of the System components. This training system will be available on-line to allow users in any location to access information when they need it.

The five deliverables provide key functionalities which are:

1. Promotion to potential users (e.g. case managers/ consultants, inventors, VCs)

2. Training for users (on how to use the Harmony tools and on how to solve business planning problems)

Software training platform

The training system was originally planned to use the latest version of the "KnowledgeSouth" platform that is used extensively by the University of South Australia to deliver a large number of on-line courses at the undergraduate and postgraduate level (including an on-line MBA).

The software approach was revised to accommodate the continuing development of the Harmony System components and to make the training deliverables easy to integrate with those components and easy to maintain and upgrade. In particular:

- Del 4.6.1 (Guided Tour) was developed as a web application that includes animations developed using Macromedia Flash. The user requires the Flash player which is integrated into Internet Explorer 5.5+ and Netscape 6.2 This Deliverable will be incorporated into the ET
- Del 4.6.2 and 4.6.3 (User training) were developed as two components. The first is a 'context sensitive' help system that is built into the latest version of the KBT. The second component is a 'searchable' help system that is linked to the KBT and accessed through a 'Help' button. This is a web application developed with ASP scripting that runs on Windows NT/2000 server and IIS. There is a web based wizard driven approach for approved administrators to author the XML based manifest file and HTML content. The content is maintained using Office 2000.
- Del 4.6.5 (Harmony Accreditation) is developed as a stand-alone system using the 'KnowledgeSouth' platform. This is a web application developed with ASP scripting that runs on Windows NT/2000 server and IIS. There is a web based wizard driven approach for approved administrators to author the XML based manifest file and HTML content. The content is maintained using Office 2000.
- Del 4.6.6 (Harmony presentations) is developed as a PowerPoint file using programs and hyperlinks. This can also be linked to the Guided Tour when used in locations with internet access. This presentation kit can be easily modified by the user to meet their own requirements.

Integration of content of research results in historic and future deliverables into Training concept and software:
All deliverables are studied and checked for use in the training deliverables and integrated as far as adding further value. The following approach is followed hereby:

- prioritise the deliverables by topic areas that are related to the training deliverables.
- extracted and used appropriate content directly (or adpated as necessary) for added value in the training content.

**WP 4 - Work Summary**
The work on WP4 is accomplished according to the schedule of the workplan.
Over the project time until today the following work has been done on the deliverable side within WP4:

- Del. 4.1.1 Training package concept design
- Del. 4.4.1 Summary and Feedback of organized HOSTE workshops
- Del. 4.5.1 Product Handbook KBT"
- Del. 4.5.2 Product Handbook IPC"
- Del. 4.6.1 Prototype of guided tour for the Harmony user.
- Del. 4.6.2 Prototype of KBT training for the secondary users
- Del. 4.6.3 Prototype of KBT training for the primary users
- Del. 4.6.4 Online Training for the IPC
- Del. 4.6.5 Concept and prototype of accreditation system for the case manager.
- Del. 4.6.6 Presentation Materials for the individual Support Organisation

The training modules, especially 4.6.5 "the accreditation system" will be developed further after the project time in a special arrangement with Harmony Solutions SA.

**TMT- Work progress overview of the Thematic Module Tasks**

Thematic Module Tasks from the beginning of the project were supposed to represent all important aspects in order to establish effective business plans and to perform an appropriate business planning process. Therefore, these tasks should cover the whole variety of business life. Even though the five proposed modules could not cover everything, they were intended to integrate a wide and most important spectrum:

Task 1:       Business strategy
Task 2:       Testing market value of new products and services
Task 3:       Core competencies and management
Task 4:       Enterprise and factory planning
Task 5:       Support tools

Work on these TMTs has been found very meaningful in the course of the project as much valuable content was generated which on the one hand feeds the products existing today and on the other hand represents the content of the Harmony Knowledge Library providing added value to the Harmony end user.

**Critical Knowledge areas**
• Financial planning
• Market research/evaluation
• Creating, evaluating and improving
  the business model
• Organisation design (staffing)
  including make or buy (outsourcing)
  decisions
• Identify internal capabilities/
  competences/ experience/ knowledge
• Technology evaluation, risk
  assessment, monitor technology
  trends
• Developing the business and
  corporate strategies

Within the critical knowledge areas as defined for the Harmony Knowledge Library additional input has been generated and can be accessed via the KBT. While the primary focus of the last periods was on the reference knowledge on the one hand on the thematic knowledge (TMTs) on the other hand, now additional value has been created by adding a a lot of functional knowledge as attachments to the reference processes and tasks. The methodology and description is given in the following.

Also a knowledge Manager Handbook has been created by the international Harmony Knowledge Manager which can be accessed via the KBT. Harmony Solutions SA is recommended to further pursue the development of this knowledge while making good use of the research results provided to them via the Harmony project.

**TMT1 – Work progress overview of TMT 1: Business strategy**

### TMT1 - Objectives

The first objective of TMT1 is to provide a comprehensive methodology for business planning and market development that is to give companies a short to medium term perspective as well an evolutionary architecture of product planning. Furthermore, TMT1 second task is to identify the requirements of the venture capitalists and to develop a strong network.

### TMT1 – Work Summary

The work on TMT 1 is accomplished according to the schedule of the workplan.
Over the project time until today the following work has been done on the deliverable side within TMT 1:
- Del. 5.1.1: Strategic planning support


### TMT2 - Work progress overview of TMT2 - Product and Markets

### TMT 2 – Objectives

The purpose of this task is to provide a general package of market research methods and information on their appropriate use. It also aims at providing a framework for collecting and managing descriptions of market analysis methodologies during the Harmony project and also afterwards, since it is very important to have continuing content management also after the project's end.
Due to the focusing towards support organizations' case managers as key users means that also the TMT2 content needs to clearly serve their particular needs. Often they will not be actively doing market research themselves but instead they will
1) consult the entrepreneurs on the proper research methodologies and
2) evaluate the market research results of those entrepreneurs.

### TMT 2 – Work Summary

The work on TMT 2 is accomplished according to the schedule of the workplan.
Over the project time until today the following work has been done on the deliverable side within TMT 1:
- Del. 5.2.1: Overall picture of the market analysis process and set of possible research methods
- Del. 5.2.2: List of information sources
- Del. 5.2.3: Guidelines and templates for market research
- Del. 5.2.6 "Collection of market research methods"

The material from the deliverable 5.2.6 "Collection of market research methods" was inserted into the KBT as a reference process. Further refinements to the content are pending product launch and further developments by Harmony Solutions SA.


### TMT3 – Work progress overview of TMT3 – Core Competencies and Management

### TMT3 – Objectives

Considering that 50% of new businesses fail after 2 years and 75% after 5 years and most reasons of failure being the lack of capital and human resources, the objectives of TMT 3 within HARMONY can be described as follows :

- Reduce failure risks in the early stages of a new business or existing young SME's

- Include long term strategy on human assets in Harmony process, as a reliable guide for management of innovation technology

Common practices in management still base their competitive strategy on products more than human resources. Betting on competencies as competitive assets represent a significant changes in management habits and therefore requires not only specific methods but also new mental attitudes. Consequently this module aims at producing such changes trough the following ways :

- Show how new ideas and products get successful through a coherent basis of competencies
- Show necessity and possibility to define and collect core competencies
- Give examples of reliability of this assertion through test cases
- A further intensification of teamwork within the Harmony consortium

**TMT 3 - Work Summary**
The work on TMT 3 is accomplished according to the schedule of the workplan.
Over the project time until today the following work has been done on the deliverable side within TMT 3:
- Del. 5.3.1: Competencies and management: Building up references
- Del. 5.3.2: Competencies and management: Shaping macro design out of strategy
- Del. 5.3.3: Business creator and core team
- Del. 5.3.5 "Management Assessment of the new Business"

Additional development was made in Abac'sys software to refine competency assessment for groups of different sizes.

**TMT4 – Work progress overview of TMT4 - Enterprise and Factory Planning**

**TMT4 – Objectives**

The objective of TMT4 is to provide support for those businesses which have to cope with technical requirements and which have for instance to choose among different places and options where and how to establish their production facilities.

**TMT4 – Work Summary**
The work on TMT 4 is accomplished according to the schedule of the workplan.
Over the project time until today the following work has been done on the deliverable side within TMT 4:
- Del. 5.4.1: Strategic Resource Planning
- Del. 5.4.2: "Site decision model"

**TMT5 – Work progress overview of Thematic Module 5 – Creativity tools**
**TMT5 – Objectives**

The objective of TMT5 is to implement generic software based support tools which may be used in several phases of the support process. This TMT is strongly based on the existing knowledge and experience of Scoop together with IFF which took over responsibilities from DONE here. There are four candidate classes for such generic tools which will be part of the two respective deliverables:

1. Tools to solve creativity problems of innovation processes (D 5.5.1)

2. Tools to identify common subjects of interest for innovation (D 5.5.1)

3. Tools to create debates among various partners through internet (D 5.5.3)

4. Tool to build and co-ordinate projects among distant actors (D 5.5.3)

**TMT5 – Work summary**
The work on TMT 5 is accomplished according to the schedule of the workplan.
Over the project time until today the following work has been done on the deliverable side within TMT 5:

• Del. 5.5.1 "Tools to solve creativity problems of innovation"
• Del. 5.5.3 "Tools to create debates among various partners through the internet"

The two following deliverables have been packaged into one in order to allow for an integration and to bundle resources as also for reasons of intern cohesiveness.

The resulting Harmony meeting room facility has been used and tested by the consortium for different purposes repeatedly.

**Comprehensive table of deliverables:**

The project has worked on the following deliverables throughout the project time:

| Deliverable Code | Deliverable Title |
|---|---|
| 1.1.1 | Evaluation of current BP |
| 1.1.2 | Accepted general Business Plans |
| 1.1.3 | Business model for the business plan to define scenarios and enable simulations |
| 1.1.4 | List of requirement of investors |
| 1.1.5 | Characteristics to classify users |
| 1.1.6 | Structure of the Harmony co-operation network |
| 1.2.1 | Logical structure of HARMONY Village and Design of the interface between modules and backbone |
| 1.4.1 | Success Factors for Start-ups (Reference Process for Sales Planning) |
| 1.5.1 | ET Concept documentation |
| 2.1.1 | Identification of requirements for the HARMONY village backbone |
| 2.2.1 | Results of the backbone (product interaction) application and improvement needs (validation pilot application) |
| 2.2.3 | Documentation of HARMONY showcases |
| 2.2.4 | Installation of content system feeding continuously the ET (workflow ET) |
| 2.5.1 | Identification of requirements for patterns of start-up businesses |
| 2.6.1 | Task descriptions for the Task manager |
| 3.1.1 | HARMONY programming conventions and standards accepted and practically used by the software houses |
| 3.1.2 | Internet based environment and procedures for the Virtual Software-Team |
| 3.1.3 | Plan for virtual and physical exchange of Software-team members |
| 3.2.1 | Description of information and object types |

| 3.2.2 | Glossary of HARMONY terms |
|-------|----------------------------|
| 3.2.3 | Entity-Relationship-Diagrams |
| 3.3.1 | Description of the preliminary software concept, part of which is tested in prototype I of the Portable Village and the Living Village |
| 3.3.2 | Software concept for Prototype II |
| 3.5.1 | Prototype I |
| 3.5.4 | Prototype II |
| 3.5.7 | Prototype III<br><br>- KBT (Task Manager and Reporting Function)<br><br>- IPC (KBT and ET integration) |
| 3.6.1 | PR and marketing materials for the Network, Material for the ET |
| 3.7.1 | Completed HARMONY Software Products |
| 3.8.1 | ET Final software |
| 3.8.2 | KBT 2nd Version (task manager) |
| 4.1.1 | Training package concept design |
| 4.4.1 | Summary and feedback of organised HOSTE workshops |
| 4.5.1 | Product handbook KBT - Update |
| 4.5.2 | Product handbook IPC  - Update |
| 4.6.1 | Prototype of Guided Tour for Harmony User |
| 4.6.2 | Prototype of KBT Training for Secondary User |
| 4.6.3 | Prototype of KBT Training for Primary User |
| 4.6.4 | Online Training for the IPC |
| 4.6.5 | Concept and Prototype of Accreditation System for the Case Manager |
| 4.6.6 | Presentation Materials for the Individual Support Organization |
| 5.1.1 | Strategig Planning Support |
| 5.2.1 | Overall picture of the market analysis process and set of possible research methods |
| 5.2.2 | List of information sources |
| 5.2.3 | Guidelines and templates for market research |
| 5.2.6 | Collection of market research methods |
| 5.3.1 | Building up references |
| 5.3.2 | Shaping macro design out of strategy |
| 5.3.3 | Measuring Individual Attributes of the innovator |
| 5.3.5 | Management assessment of the new business |
| 5.4.1 | Strategic resource planning |
| 5.4.2 | Site decision model |
| 5.5.1 | Tools to solve creativity problems of innovation |
| 5.5.3 | Tools to create debates among various partners through internet |

**References:**

Main Publications:
- Dr. Tapani Savolainen: Harmony. In: IMS Newsletter #13, 1999
- Björn Söndgerath: HARMONY. In: Fraunhofer Magazin 4/1999. Date of publication: December 1999.
- Björn Söndgerath: HARMONY – Unterstützung bei der Unternehmensgründung. In: Fraunhofer IFF Jahresbericht 1998. Date of publication: January 2000.
- Björn Söndgerath: Harmony. In: Fraunhofer Mediendienst 4/2000 Date of publication: April 2000.
- Marisa Maio Mackay: Harmony: International Journal of Entrepreneuerial Behaviour and Research.
- Björn Söndgerath/Jörg Martinetz: Harmony – Coping with the Complexity of Business Innovation. Article for European eBusiness & eWork Conference Madrid, October 2000.
- Markus Lüken: How to match the start-up support institution and the entrepreneur; Fraunhofer Institute for Factory Operation and Automation, published at Förderkreis Gründungs-Forschung e.V., Entrepreneurship Research, October 2001
- Markus Lüken: Global interacting start up support organisations – A Task Based Software Tool to Aid Multiregional Collaborations, Fraunhofer Institute for Factory Operation and Automation, published at Förderkreis Gründungs-Forschung e.V., Entrepreneurship Research, October 2001
- Andreas Wolf: Coaching von Existenzgründungen – you should use HARMONY, press release, Fraunhofer Mediendienst, December 2001
- Official annual report about start-up Vulcain incubator with the using of Harmony Methodology, 2002.
- Big success: the start-up winner of the national "Prix Vigier" 2002 is a Harmony start-up company. It won 100'000.- CHFr
- One single and strategically very important article has been published in the top quality "SWISS LABEL" revue dedicated to "Research, Technology, Innovation", 2002.
- Focus: Bulletin du CCSO no 47: October – November 2002: 200 exemplars including flyers.
- Article about harmony system and final event in news paper "Europa – Estrategia Empresarial", 2002.
- Official IST Broschure: "Harmony" (by Markus Lüken), 2002.
- Andreas Wolf: Exhibition Guide to the FP6 Conference: "Harmony Start-up Support", Nov.2002

Main Conference Presentations
A lot of conferences have been either attended for Harmony presentations or organized for dissemination purposes. The following should serve as more recent examples only:
- German Circle of Experts, Nov.2001, Magdeburg (example of the regular CoE which were cultivated over the partner countries)
- KM 2002 in London (13.11.-15.11.02)
- "First Tuesday" Meeting Resonance: 25th November 2002, Fribourg: Exhibition stand Harmony. The event has been spnsored by Harmony.

- Harmony Open Space Trainings Event (HOSTE) on the 5./6th July 2002, Leonberg with comprehensive public relation work before and after the conference as well as reflection of the process & results (refer to D.4.4.1)
- Harmony Exhibition and Presentation on 6FP RTD Conference, Brussels, 11–13 November 2002: the opportunity of presenting Harmony with an exhibition booth among the best 10 selected IST projects of the last 4 years was very much due to our project officer Mrs. Heidi Seybert. It was an awfully good opportunity and very much extremely positive feedback was received from both, participants and EU commissioners.
- Project Final and Marketing Launching Event called the "First International Harmony Forum" in Paris, the 28th-29th of November 2002

PR and marketing materials:
Based on the developed corporate design (especially the distinctive green colour) and marketing plan the following materials were designed and created:
- an invitation flyer which is intended to use for the Harmony forum planned to held in Paris in November 2002 (print of several thousands; pdf)
- two poster – a project and a product poster - mainly intended to use during exhibitions, fairs and conferences (e.g. E2002 in Prague, October 2002)
- two other posters (according to very specific specifications) for the RTD conference in Brussels mid of November 2002
- an image brochure which gives a summarised overview about the idea, concept and philosophy of the Harmony approach and solution (print of several thousands; pdf)
- a demo CD-ROM which contains all Harmony relevant information in electronic format including the Harmony Guided Tour and additional modules
- a 2page "pitch" summarising the idea, concept and philosophy of the Harmony approach and solution
- Business cards with Harmony logo (temporarily for the use of Harmony Solutions SA)
- The ET which is, besides other tasks, the marketing tool of Harmony. It provides information for potential users about network, products and benefits as well as several other information functions (newsletters, research results, success cases, public deliverables, faqs, search funtctions etc.)

# 9	Exploitation of results

Exploitation strategies are twofold: a common way and a partner individual way.

- On the common exploitation way the consortium exploitation company "Harmony Solutions SA" has been founded legally on the 18th of November 2002 in Fribourg, Switzerland with German and Swiss consortium partners as shareholders.
  *Contact details:*
  *Harmony Solutions SA*
  *Rte du Jura 37, 1706 Fribourg*
  *Tél : 026/347 48 46, Fax : 026/347 48 49*
  *office@harmony-solutions.net*
  *http://www.harmony-solutions.net*
  *Mr. Faris Sabeti, Mrs.* Anne Reynaud-Craknell

- Individual Exploitation Plans are also valid as most partners did not choose to become shareholders of the company while everyone was invited to do so. Rather some partner will act as distrubtors for Harmony SA, national promotors, further research and develepment partners as well as end users in either the primary field of use (business innovation support) or the secondary fields of use (project and knowledge management) in learning communities feedbacking their experience to the Harmony SA for continous improvement of the future product development.

# 10	Summary of Interregional Cooperation

Harmony was an IMS project with partners from the EU, Switzerland, Australia, Japan and the States in the beginning.

- There was an extremely close collaboration with the Swiss partners over all workpackages and project years. This cooperation proved very fruitful and will certainly be maintained beyond the project.

- The Australian partner UNISA contributed substantially to the Training Module and plans to offer a Masters Degree based on the Harmony philosophy and practice in future. In addition UNISA opened the south eastern Asian markets and provided continuous feedback on the ongoing state-of-the-art and user-demands in business innovation support.

- The Japanese partners developed a complementary Harmony product which opened doors for a potential joint product development in the future.

- The American partners ceased their participation in Harmony out of funding reasons mid way of the project.

Overall the interregional cooperation was very good and fruitful.

# 11 Annex: Harmony Solutions SA Newsletter