

R&D WORKSPACE 2015+

DESIGNING SPATIAL SOLUTIONS FOR FUTURE R&D



INTRODUCTION

Successful innovation projects are the result of a complex interplay of many different actors and activities. We have found that a critical – but somewhat neglected – success factor for R&D and innovation lies in creating the favorable spatial conditions in which employees carry out R&D activities. Designing work places, rooms and buildings deliberately for innovation purposes can be just as beneficial as defining innovation processes or using sophisticated IT tools.

The existing body of knowledge concerning the design of R&D spaces, however, is rather limited. This is why Fraunhofer IAIO has initiated the »Advanced Workshop on R&D Work Spaces 2015+« in collaboration with the R&D Management Conference. To gain more insight into the successful design of R&D space, participants had the opportunity to understand basic concepts of R&D space design, to learn from good practice examples and to collaboratively explore new ways to shape future R&D environments.

This brochure gives an overview on the workshop presentations as well as the Fraunhofer internal research project »R&D workspaces 2015+«.

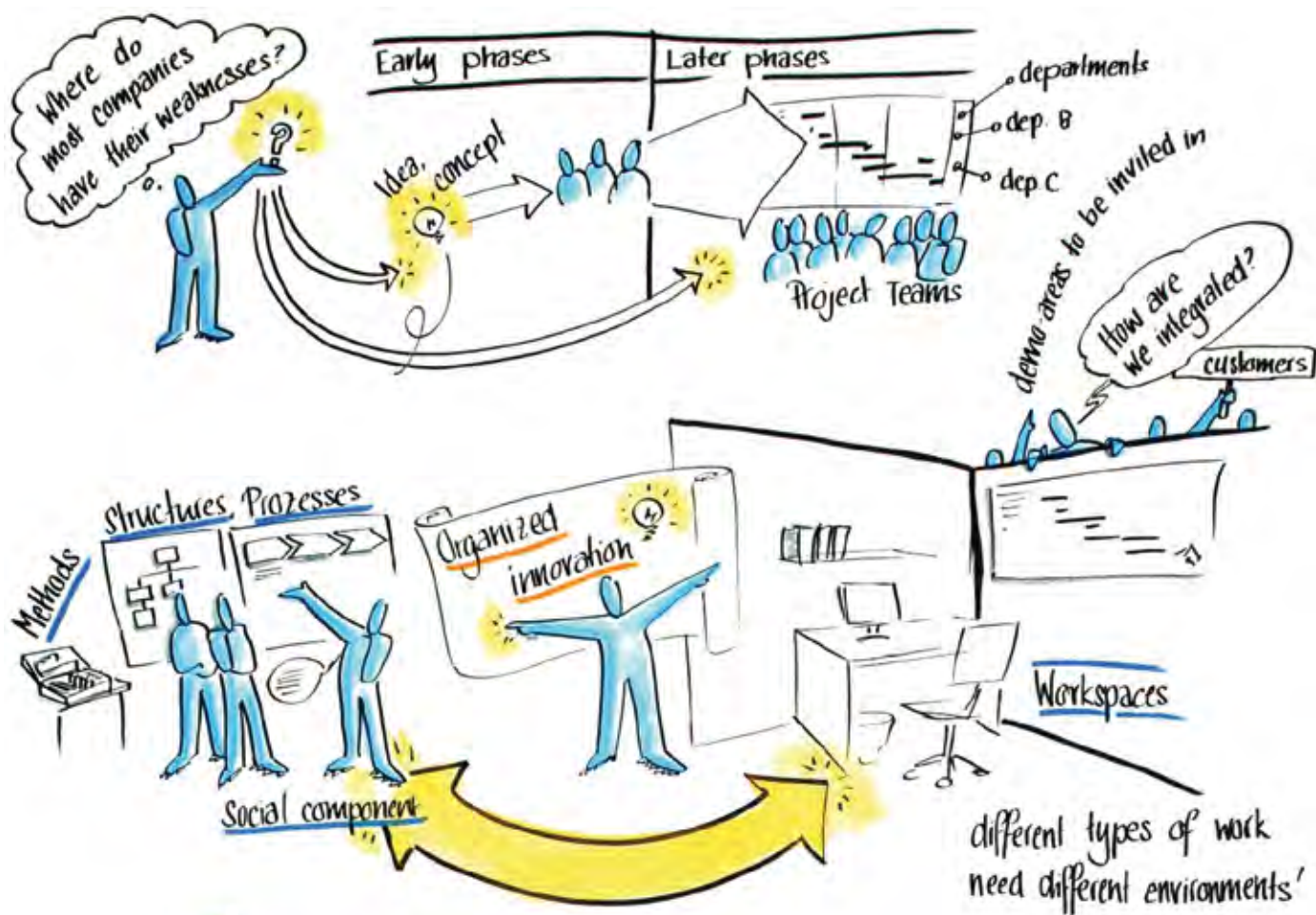
Stuttgart, September 2011



Univ.-Prof. Dr.-Ing. Dr.-Ing. E.h. Dieter Spath

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Keys to success
for innovative processes:

variety of characters/people

flat hierarchy

open communication \Rightarrow needs 'closeness'

culture

leadership

networking

Research & Development
Centers

\Rightarrow bundle & focus
R&D competences



\Rightarrow Global collaboration

FLAVIUS STURM

Organisation: Fraunhofer IAO

Biography: Flavius Sturm works in the competence center R&D Management at the Fraunhofer Institute for Industrial Engineering IAO. After having received a Master's degree in Economics from the University of Hannover in 2002, Flavius Sturm joined the R&D Management Competence Center at Fraunhofer IAO, where he gained extensive experience in technology and innovation management projects. He currently heads the Center for Corporate Development at Fraunhofer IAO and is the project manager of »R&D Workspace 2015+«.



FUTURE R&D CHALLENGES AND THE ROLE OF THE R&D WORK SPACE

In innovation management literature we find a number of factors that contribute to increasing a firm's competitiveness, such as personal characteristics (e.g. openness for new experiences, intrinsic motivation, persistence, ...), leadership behaviour (e.g. motivation, error-tolerance, ...), team properties (e.g. ability to resolve conflicts, information transfer, cross-departmental composition, ...) and organisational characteristics (e.g. flat hierarchy, sufficient extra-resources, ...). Research has shown that designing physical environments can encourage processes that play a vital role in product creation, such as knowledge-sharing, learning and collaboration. The more people are involved in the development of a new product or service, the more important the purposeful design of R&D spaces becomes. However, while we find that products get more complex and are carried out with a multitude of partners, we also observe that physical environments tend to remain the same. One of our interview partners - an experienced R&D manager who supervised 80 staff members - admitted that »[...] the only thing that has changed at our engineers' work places during the past 30 years, is that the drawing board has been replaced by a flat screen.« To shed more light on how R&D environments can support the R&D activities in the best possible way we initiated a research project at Fraunhofer IAO. Our purpose was to answer two main questions:

- »How will R&D activities be carried out in the future?«
- »How can the right work environments support the execution of R&D?«

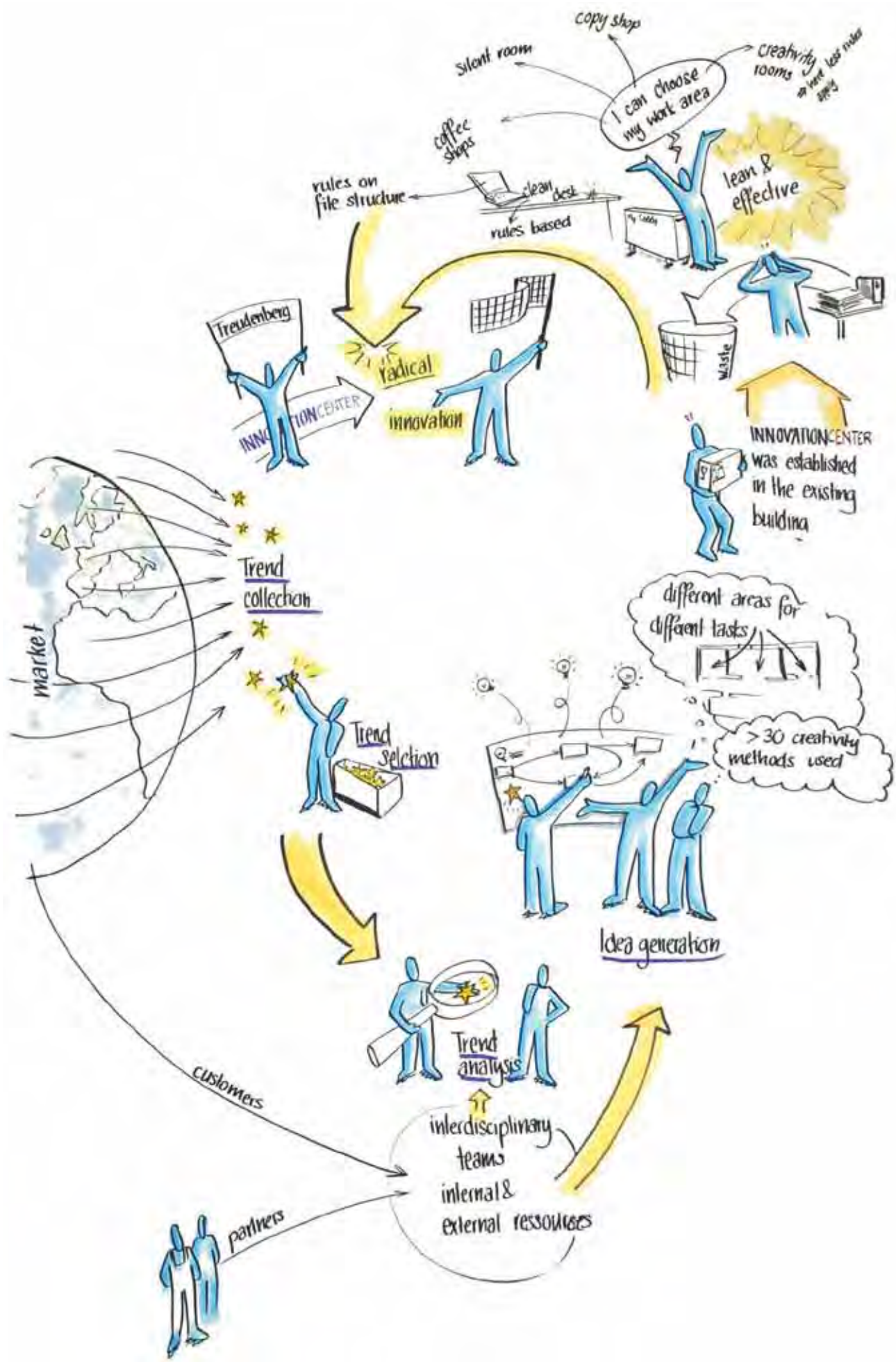
Trends in Industrial R&D

To answer the first question, we have conducted 13 interviews with R&D and Innovation Managers in industrial companies to spot those trends that have a strong influence on the design of physical environments: Among all trends, the following ones are the most influential:

- Increased networking: internationalisation of R&D sites, partnerships with international companies, universities and research organisations and increased level of offshoring and outsourcing.
- More customer focus & solution development: customised products, single source suppliers and customer retention through active customer support.
- Integration and efficiency of R&D processes: more pre-development, integration of R&D with planning, sales and supply management.
- More R&D flexibility (structure and processes): telework, R&D subcontracting.
- Digital support for R&D processes: integration of R&D software, simulation and virtual reality, design automation and modularisation and platforms.
- Availability and retention of employees: availability of engineers, new competences through team.-work, interdisciplinarity or project management and new career paths.

The Future of R&D Workspaces

A key assumption for our work is that future R&D workspaces need to be adjusted to the challenges of each phase of a development project. While early phases involve more individual and self-organised work, later stages are rather structured and carried out in bigger teams. This is, however, a strong simplification. During our work we took a closer look at what people actually do (e.g. planning, design, simulation, test, documentation), how they do it (e.g. use of methods / tools) and with whom (e.g. customers).



DR. ULRICH FRENZEL

Organisation: Staufen AG

Biography: At the time of the Workshop »R&D Workspaces 2015+« Ulrich Frenzel lead the Innovationcenter of Freudenberg, a leading company for sealing technologies. Today, he is Business Unit Director at the Staufen AG. Before this engagement, Mr. Frenzel worked for Trelleborg / Busak & Shamban, also leading companies in advanced polymer technologies, as a research director. He graduated from the University of Stuttgart and holds a doctor's degree in engineering.



FREUDENBERG INNOVATIONCENTER - SPACE TO CREATIVITY

The Future Work

Global developments change requirements towards changing work live:

- Highly developed societies in the 21st century shift towards a new époque in which information and knowledge play a major role.
- Towards a »knowledge factory« the »production site office« will be affected by increasing competition.
- In the future, the »geographical office« will not exist any more.

Through the combination of the work coordinates »structure«, »time« and »place«, new target- and user specific work spaces will become necessary, closely linked with e.g. production sites, laboratories and logistics:

- Advancements in information and communication technologies enable mobility concerning working time and place.
- New organisational concepts and structures will appear; working within highly dynamic, cross- functional project teams will become more important.
- Flexibility, dynamics and adaptiveness will become the future competitive advantage for businesses.
- These fundamental changes also result in future work spaces.
- New forms like »combination-office«, »non-territorial office« or »business clubs« will appear.

New building designs will combine efficient working processes with economical and ecological demands, affecting building IT infrastructure, heating and air conditioning, acoustics as well as structuring elements.



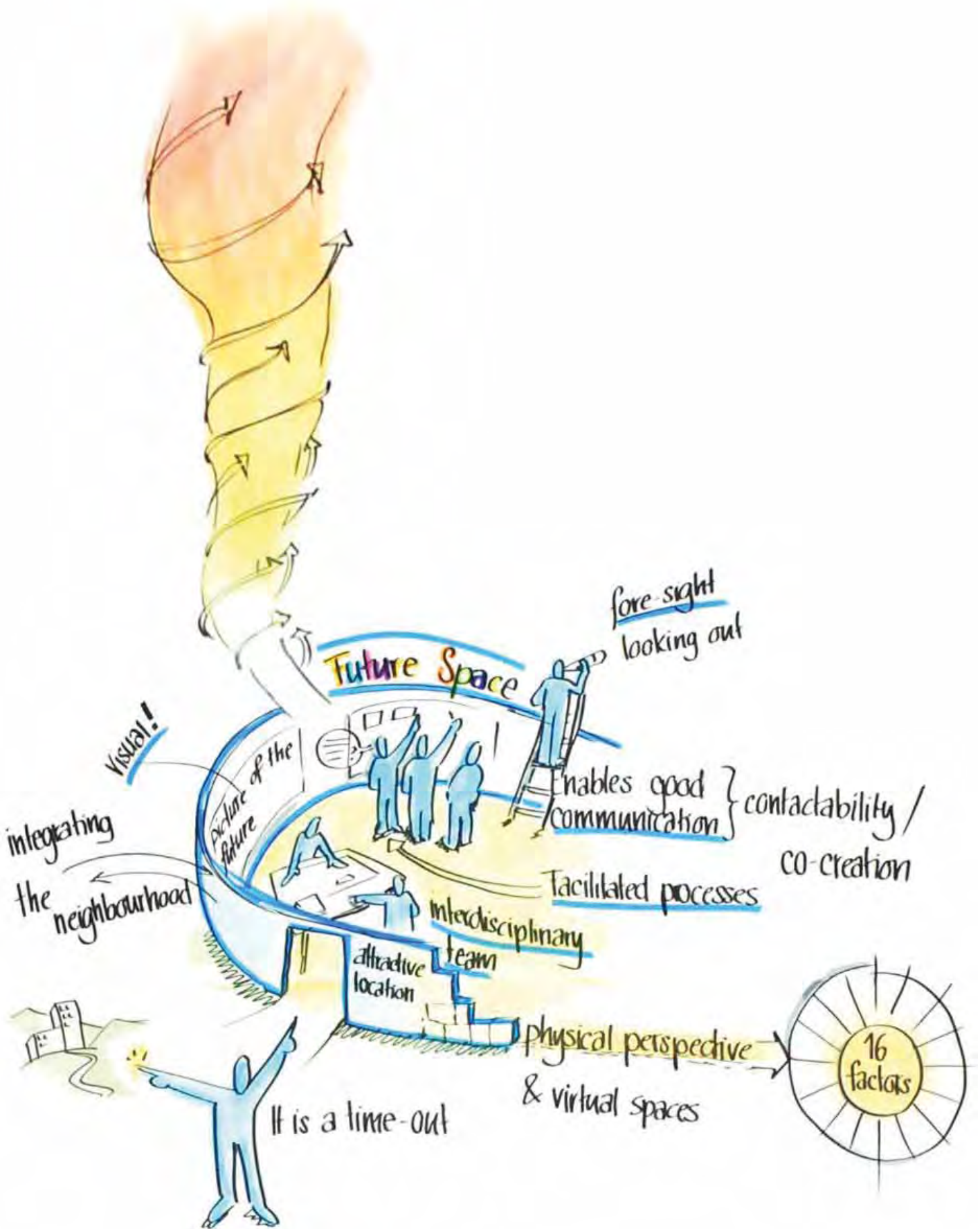
Corporate Demand

The active encouragement of (interdisciplinary communication has many advantages:

- Improved efficiency in work process and organization.
- More creativity and improved employee motivation by inspiring work environment.
- Flexible work environments foster flexible thinking.
- Customer integration is improved, underlining the image of innovation leadership.

For Freudenberg, the »Morphing Office« represents the best space for individual tasks:

- Higher space efficiency due to less work places for more space.
- Equality: »Same rights for all«.
- Healthy environment by adjustable multifunctional furniture.
- Flexible »breathing« offices.
- Office Excellence with clean and paperless desk policy.



DR. RON DVIR

Organisation: Innovation Ecology

Biography: Dr. Ron Dvir is an architect of innovation engines and future centers, specializing in integrating the organisational, methodological, physical, technological and financial perspectives of innovation into a working open innovation system. Ron co-led and acted as chief scientist/system architect in several large scales international research projects in the domains of innovation. Founder of Innovation Ecology that explores and plans organisational environments that trigger, enable and catalyse innovation.



THE FUTURE CENTER AS AN INNOVATION ENGINE

The History of the Future

In 1995 Skandia, a Swedish insurance company, faced dramatic pressures from existing and new competitors. The company chose to use a secret weapon – Innovation as a core strategy, competency and competitive advantage. Their Intellectual Capital VP, Leif Edvinsson, suggested to turn an old 19 century villa that served the company as warehouse for old office furniture, into an innovation laboratory, a place where company staff as well as external people would have the best conditions to disrupt existing services, working procedures or envisions and to try new ones. It was a place for preparing systematically for the future and »turning the future into an asset«. He called it »Skandia Future Center«. Since then, many organisations, in the private and public sector, were inspired by Skandia experience and founded a Future Center. Currently there are more than 30 Future Centers on the global Future Centers map.

What is a Future Center?

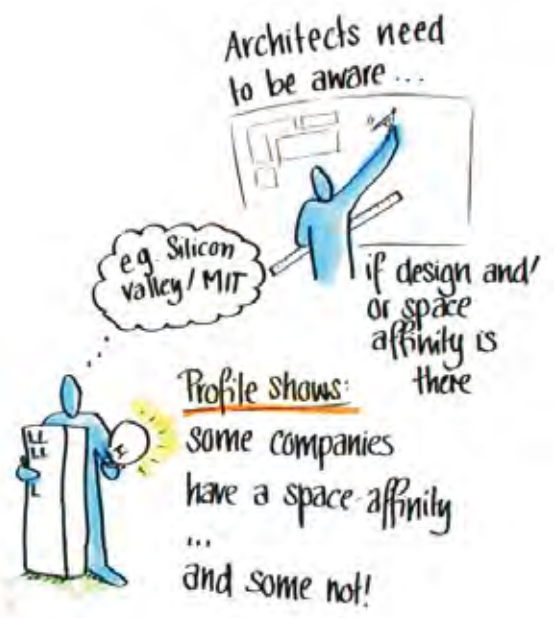
A Future Center is a facilitated organisational space dedicated to support an organisation in its efforts to prepare systematically for the future and address it in a proactive way. Future Centers nourish radical innovation. They are powerful communal places for dreaming, thinking, playing (with ideas) and prototyping new concepts, models, products, services and solutions.

The Building Blocks of Future Centers

In 2006-2008, an international group of practitioners and academics explored the phenomena of Future Centers, within an EC funded project called »Open Futures«. They discovered that while each center is unique, they share 12 common »building blocks«. Based on these commonalities, the explorers created »an operating system for building Future Centers« (see for example: <http://innovationecology.com/FutureCenters/Start.html>). Critical questions and challenges are related to each block:

1. **Vision:** this is of course the cornerstone. Why should an organisation invest in a Future Center? What are the expected outcomes and benefits for the stakeholders? Who are they?
2. **Operating principles:** which values will guide the Future Center operation? In our exploration, we discovered several common principles. For example: a past-present-future connection, focus on the future, focus on impact, equal voice for each participant, combining dreaming, thinking, playing and acting, focus on sustainable solution and »permission to disturb« and to disrupt the status-quo.
3. **Operating model:** who will the center work with to realize its vision? What will be the core process of futurising, prototyping and addressing challenges?
4. **Methodological dimension:** which tools and methods will be used? We discovered a portfolio of more than 40 methods that are commonly used in Future Centers.
5. **Physical space:** where should the Future Center be located? What will be the look and feel? We discovered that most Future Centers look and feel very different from ordinary work places – and this was done on purpose!

More building blocks (e.g. the human space, the lifecycle, the business model) constitute a Future Center. All of them should be considered prior to the creation of such rare spaces in which shaping the future is the main priority.



Innovation is a collective process



Space shapes collectives



PROF. DR. JÖRG RAINER NOENNIG

Organisation: TU-Dresden - Center for Knowledge Architecture

Biography: Born in 1973, Jörg Rainer Noennig studied architecture in Weimar, Krakau and Tokyo. Worked as architect and lecturer in Japan 1998 – 2001 and as a researcher at the Technical University of Dresden from 2001 – 2009. He was offered a professorship in Dresden in 2009.



(UN)DESIGNING INNOVATION SPACES

The purpose of R&D centers seems obvious: »Research« usually strives for knowledge, ideas and insight; »Development« for new products, processes, or services on the market. The translation from one to another may be »innovation«, this surely being a simple explanation. Yet, a closer look discloses a broad range of innovation concepts, objectives and typologies, e.g. radical innovation, open innovation, incremental innovation etc. all of which need appropriate workplaces according to their different demands. That the success of R&D spaces depends on their spatial setup and design thus seems a good message for architects and planners: Good design supports good R&D work. Unfortunately, this is a wrong belief, a misconception that has led to a long-lasting ignorance towards innovation-oriented concepts planning and design.

Does Space Matter?

There is some evidence that many innovations have just happened without any notable influence of space or environment. Programming an app for your I-Phone does not need a specific workplace. Here, architectural design and space don't matter. Other more eminent factors like for example technological equipment or scripting skills, certainly have stronger stakes. Even if space and architectural environment matter, it is questionable if they have to be designed. In the context of innovation work, the idea of design turns into a highly sensitive issue. Any attempt of designing may foredoom a dead end: many innovation places were designed to death. Not because they had the wrong design, but simply because they were designed. To design them was the wrong motivation from the start.

Designed Space Matters

If space, and the (architectural) design of space play a role in innovation processes, it is still a difficult task to tell the right design. Until now no reliable correlation between good design and successful innovation work has been found. Well-working innovation places were crushed by gorgeous design, whereas poorly designed architectures turned out to be highly effective idea generators, see Xerox PARC. How to tell the cases when architecture, space and design do matter for innovation work, and when not? In respect to the specific type of innovation work, we must be able to answer the sequence of questions as implied in the statements above: 1) Does space really matter? 2) If so: Must it be designed? 3) And if this holds true too: How to tell the right design from wrong?

THREE GENERIC RULES

Given that space matters, from the designer's perspective only two options are left: Shall we go for the right design? Or shouldn't we better ignore designing at all and opt for not-designing? In order to identify the appropriate attitude, the following three generic rules may help further:

- **RULE 1:** Architecture is a means of consolidation. By its »natural« dimensions (e.g. construction efforts, labour demand, timescope) architecture is conservative. It puts things and people to order, it ensures safety, stability, and continuation.
- **RULE 2:** Architecture is a powerful means to establish and control collectives. Whereas an individual may ignore the impact of architectural space, groups and societies cannot. Architecture shapes collectives – positively or negatively. It may work as an enhancer of sociability as well as of dictatorship.
- **RULE 3:** Innovation needs collectivity, and collectivity implies interaction and communication. Thus, architecture, organization, and networks come into focus as tools for innovation management. All three means are »innovation-affine« as they have the power to impact collectives, communities and societies (though on different levels).

With these rules, we can single out the cases when architectural design and space are the right innovation tools. However, it may be more telling to see when they are the wrong ones. At least for a certain type of innovation work, architectural design is poisonous.



MARK ZEH

Organisation: Mark Zeh Innovation

Biography: At the time of the Workshop »R&D Workspaces 2015+« Mark Zeh was responsible for Pan-European Relations of Continuum, a global Design- and Innovation Consultancy, head-quartered in Boston, Massachusetts. He previously worked as Director of product development for the Steelcase Premium Group and as Senior Project Manager at IDEO, Palo Alto. Today, he is self-employed, working for various industrial companies in the area of product design.



ENHANCING WORK AND LIFE WITH SPACE DESIGN

Companies expend a great deal of effort creating innovation strategies, identifying potential leaders and training their leadership in how to encourage and manage creative, and research, activities. As a part of this, they also devote considerable time and effort finding, training and retaining talented, motivated people to execute their work. Within the context of this effort to create and maintain effective innovation process and cultures, it is interesting to note that decisions about design of space almost always start and end with price, cost and basic functional considerations. Conversely, there are some well-publicized collaboration/innovation spaces, such as those at Google, or at any of a number of Silicon Valley Startups. How much of this is hype and how much of it really promotes innovation and collaboration?

The initial questions we need to address are how to use architecture, interior space design and furniture design to enhance desired interactions and promote specific types of activities within teams. Thereby, it is of major importance thinking differently about what architecture says about their organisations, how it makes people within enterprises behave and how spaces can be used as another component in an overall management toolset to promote the goals of the companies making the investment.

It's about People

Space and furniture has to be designed around the needs of the people who will use them. Too often, architecture is thought of as a stand-alone expression of corporate brand, or personality, or merely considered as a sort-of aesthetic stand-alone context, without considering its relative permanence and influence on the lives of people who will inhabit its spaces. »Clean desk« policies thereby erase the humanity from spaces and only reinforce the idea that the company is more important than the people who make up its value: they compose a machine where people are the replaceable components. »Creativity does not arise from an ordered system.« One of the underlying ideas of »clean desk« policies: that is that anyone can work anywhere that isn't presently-inhabited, is endorsed. The ability to quickly compose and de-compose activity-oriented, ad hoc workgroups is key to present R&D and innovation work styles: present IT enables this and contemporary furniture and interior design leaders have created settings to enable this. There just isn't a need to remove the human element from a space, in order to accommodate this wish for flexibility. Another important aspect are the »Person«-values of »Health«, »Individuality« and »Control« are principals of a »Human« space. These principles elaborate the very human needs for healthy environment, personal expression and »own« space, and the key need to control »social distance«, in order to maintain group status.

Finally, we need to consider four »Cultural« needs: »Build Trust«, »Communicate«, »Collaborate« and »Experiment«. A critical need of idea-based organisations is that hierarchy can be dissolved at key points, promoting creativity, idea-sharing and collaboration-based learning. Furniture and space design should also afford work-phase-appropriate types of communication and collaboration: it is critical during certain phases of R&D work that people are closely co-located, in order that thoughts are most-easily shared, even those that may seem most trivial. Since this is a temporal aspect of R&D and innovation work, spaces and furniture must be designed in ways that allow them to be rapidly re-configured and flexibly arranged, to enable specific types of interactions.

Conclusion

The thinking around the design of innovation and R&D spaces should be turned around-successful design of these spaces should enhance output from the group by reinforcing human and personal needs, rather than organisational or brand-led needs. Careful considerations of the needs of people who inhabit these spaces will lead to even greater results.

Formal project mgmt. Ad-hoc coordination

coordination models



↑ pattern
Productability



Agility

fast reaction
adaptation
innovativeness
learning



Networkability

integrating competencies
distribution

Comparison between worst & best performing companies



Drivers:

Agile structures

Joint targets

Planning & doing work

Organise information

Levels of involvement

Seamless environment



better performance



DR. HERMANN LÖH

Organisation: Virtual Enterprise Architects

Biography: Originally trained as a mechanical engineer, Dr. Hermann Löh has helped many companies to improve their innovation performance and organization – as a consultant with McKinsey & Company, and as researcher and deputy head of CeTIM, an international research institute for Technology and Innovation Management. He co-founded and is now heading VEA as provider of a new generation of collaboration solutions for innovative companies.



AGILITY, PRODUCTIVITY, AND NETWORKABILITY: TRENDS IN R&D COLLABORATION AND HOW TO ADDRESS THEM

As structured business processes are increasingly supported and automated by information technology, the performance in less structured, collaborative and knowledge-intensive processes and projects becomes the key driver for competitive advantage. However, in this area there is a huge gap between low and high performing companies, much larger than in traditional processes.

Reasons for Differences in R&D Performance

The reasons for this gap can be found in the increased and different complexity organisations face in R&D and other knowledge-intensive and innovative areas:

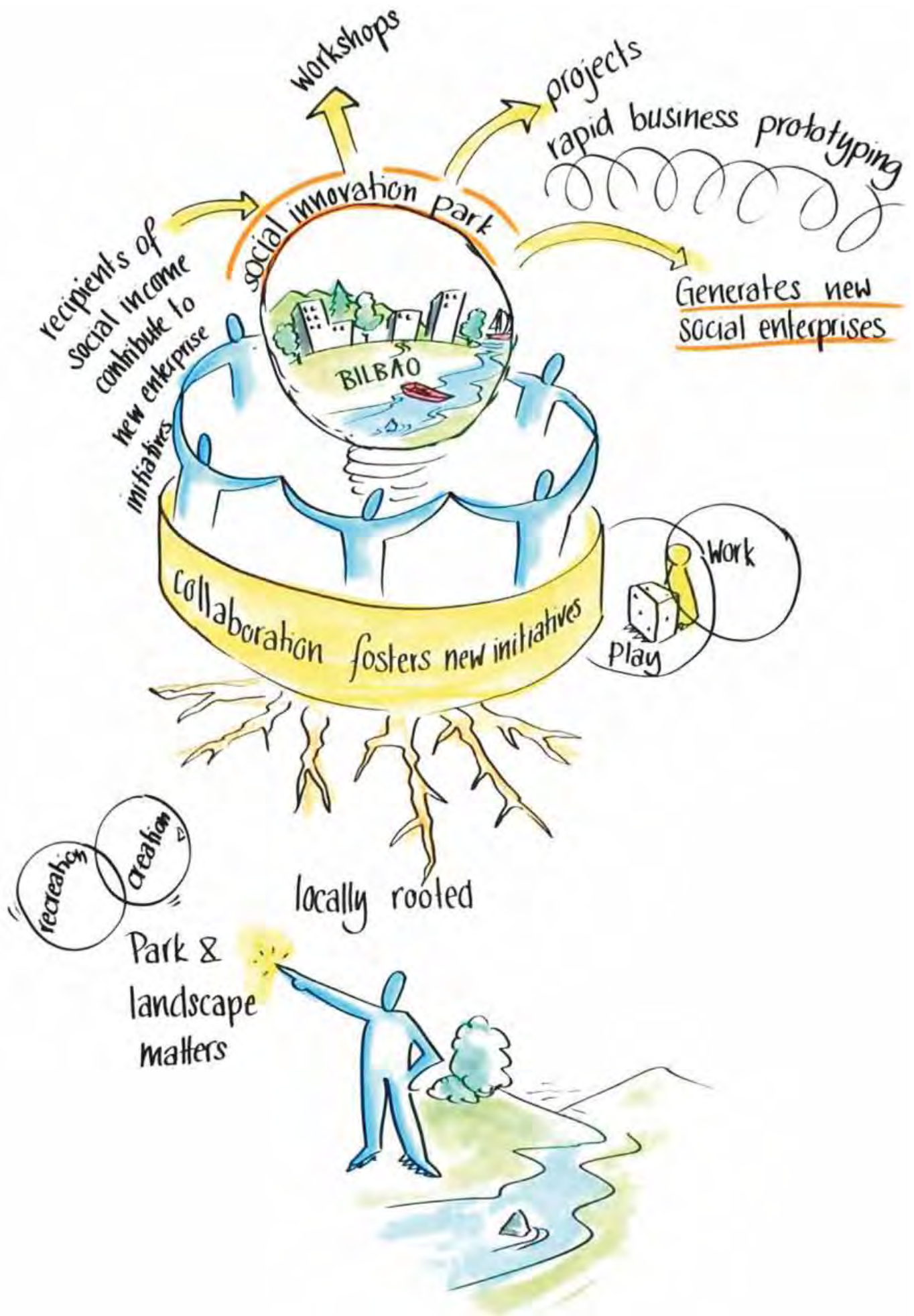
- A multitude of often very different activities run in parallel, each with different, yet overlapping teams.
- People need to collaborate and combine their knowledge across departments, locations and with external partners.
- New demands, innovation and learning require quick changes and adaptability.

These challenges suggest a new »Magic Triangle« of Agility, Productivity, and Networkability companies need to optimise this triangle in all dimensions at the same time. Agility includes the ability to swiftly react and adapt to changes, to learn and to innovate. Productivity combines the dimensions of the traditional magic triangle of cost, time, and quality. Networkability includes the ability to integrate external competencies and bridge distribution or distance of collaborators. Traditional organisational wisdom suggests that there is an inherent conflict between these dimensions, as it takes time and costs to integrate external partners as well as being agile to new developments. A close team can cater more easily for changes, while stability improves productivity.

New Approaches in Collaboration Support

In order to improve in all dimensions, both new ways of working and leadership are needed as well as an IT environment that fits to these new ways. Research on organisations and the nature of knowledge work by e.g. Karl Weick, Deborah Dougherty, and Peter Drucker as well as our own work suggest new approaches that we also support in an innovative collaboration toolset (VCS):

- People need the right structuring of the work (e.g. defined projects, work packages, deliverables), adaptable, yet clearly framing elements.
- Joint target setting creates focus and motivation.
- Planning and actually doing work should be done by the same people.
- Information organised by the structures of working is the best measure against information overload.
- It needs to be possible – and especially easy – to have different levels of involvement and collaboration for distributed and external partners (e.g. focused on one point, in a work package, in the complete project).
- Information Technology should create a seamless environment with all information and tools at hand that reflect and support the work structuring and principles of planning and collaboration.



GREG RIVERA, PH.D.

Organisation: Innovalab and DenokInn

Biography: Artistscientist specializing in transforming culture in organizations and regional societies. Presently developing an Innovalab and Fab Lab program network for ideation, prototyping and social enterprise. ArtistScientist-in-Residence at DenokInn: The Basque Centre for Business and Social Innovation. In 2005 Rivera received his doctoral degree from the School of Consciousness and Transformation at the California Institute of Integral Studies. Additional academic work includes the MIT Media Lab, Harvard University, and Antioch University.



SOCIAL INNOVATION PARK IN GREATER BILBAO

The first Social Innovation Park in Europe

Social Innovation leaders have a long tradition of collaborative projects but a business park fully dedicated to this field has never been experienced in Europe. In the Greater Bilbao area of Northern Spain, the Social Innovation Park (SI Park) will consolidate social enterprises and emerging innovation projects to create the new Social Silicon Valley. All members will benefit from the new incorporated SI Park resources: Social Innovation Laboratory (G-Lab), Social Innovation Academy, Social Enterprise Generator and Social Angels Club.

Social Innovation Laboratory

Aboard one of the Basque Regions last hand-made 35-meter wooden tuna fishing boats, SI Park will host G-Lab for identifying emerging social tendencies to apply Innovalab's participatory democratic methodologies successfully tested with hundreds of participants for four years. G-Lab will evaluate current social services provided by worldwide public administrations to design and develop innovative test beds. G-Lab will operate under an open innovation framework, with membership annually determining potential areas of laboratory research. As a priority, G-Lab's research will be royalty-free to all institutions on-site in Bilbao. In addition, G-Lab will be associated to the leading international networks of social innovation laboratories.

1. Social Innovation Academy

The Social Innovation Academy will provide on-site and on-line training to bring fresh ideas to services provided by third-sector institutions, organizations and enterprises. The Social Innovation Academy will offer regularly-scheduled on-site and on-line programs: Intensive training for civil servants, project-based education, and welcoming »spin off«-training centres from the most successful global entrepreneurial schools. For this purpose, SI Park is partnering with the Social Innovation Global Academy project.

2. Social Enterprise Generator

Once emerging tendencies have been identified in the G-Lab, collaborating entities within the SI Park will have the opportunity to launch and incubate new projects and social enterprises in the Social Enterprise Generator. Emerging innovation entrepreneurs will be trained, mentored, and evaluated by SI Park staff, incorporating know-how present in a privileged social environment. SI Park's pilot project, led by DenokInn, will generate social and cooperative enterprises under an innovative approach. Local institutions will allow social income beneficiaries to test new entrepreneurial initiatives without losing their benefits. A number of small and medium-sized enterprises will be located in the park, integrating related experiences successfully tested in Sweden and France.

3. Why in Bilbao?

The Basque region of Spain has a long tradition of a vibrant economy powered by a deep social approach. This is the homeland of Mondragon Cooperative Corporation and the Guggenheim Museum. The Basque area has demonstrated a fifteen-year history of socio-economic regeneration. According to the UN Human Development Index, the Basque region ranks as the world's most socially balanced countries.



DR. SVEN SCHIMPF

Organisation: Fraunhofer IAO

Biography: Sven Schimpf works in the competence center R&D Management at the Fraunhofer Institute for Industrial Engineering IAO. Throughout his career, he was able to review various R&D practices in industrial companies and support them in different disciplines from the set-up of idea-management systems and methods for long-term planning, the implementation of process structures to the identification and evaluation of specific technologies.



SCENARIOS FOR THE R&D WORKSPACE 2015+

Different tasks within R&D require different work environments. But as firms grow (or shrink) and as products and technologies change, how can R&D environments be adapted to fit the needs of employees?

In the course of our research project »R&D Workspaces 2015+« we learned that the design of (interior) space can do a lot of useful things (e.g. enhance communication), but it can also have a number of negative side-effects. The workspaces that we propose should therefore not be considered as prescriptive, but rather as a stimulation to think about the potentials that a purposeful design of space can offer to enhance R&D productivity:

1. **Individual Workspace:** The individual workspace remains the dominant workspace in R&D. Individual workspaces can be organised following traditional office concepts (sometimes combined with technology components) and vary from individual rooms to non-territorial workspaces. This workspace supports activities such as planning, design, documentation, information search and communication.
2. **Creativity Workshop:** Creativity workshops can be used for the generation, presentation, discussion or assessment of ideas and/or sometimes as a space for distraction. This type of workspace is rarely found today. To use it productively, we suggest equipping it with sufficient space for notes and sketches (e.g. white-/blackboards) to document ideas quickly and to distribute them easily.
3. **Project Room:** Despite the fact that R&D organisations have to deal with an increasing number of projects, we have rarely found dedicated project spaces in which project team members can work close to each other. The project room puts a special focus on integrating individual and collective work in one spot.
4. **Control Room:** Especially in multi-project environments, decision-makers require more efficient means to plan collaboratively, to evaluate projects, to resolve conflicts and to make decisions. The control room scenario focuses on the integration and visualisation of data and information, and provides enough space for the integration of additional stakeholders into the decision-making process.
5. **Prototyping & Testing Workshop:** Idea generation and concept development can be sped up substantially by providing some additional space to experiment repeatedly and work on early prototypes. The prototyping & testing workshop can also be used to demonstrate prototypes to customers to feed their opinion back into the development process.
6. **Silent Room:** Multi-space environments often neglect the need for privacy and concentrated work. Silent rooms are a simple measure to provide quiet spaces for undisturbed work (e.g. editing documents, phone calls, confidential talks).

This high level description of selected scenarios for the R&D Workspace 2015+ gives an overview on requirements resulting from 13 interviews carried out with leading companies from various industries. They are the basis for further elaboration that will be published by the end of the project.

DAY 1



Ron Dvir presenting
Building Blocks of Future Centers



Mark Zeh presenting
Work-Life Space Design



Visit
Lab 2020



Visit
HyPI-6 VR Cave

DAY 2



Visit
Office Innovation Center



Interactive Session
Innovation Village



Interactive Session
Future R&D in Industrial Cases



Interactive Session
House of Logistics and Mobility

IMPRINT

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