

Design Research

Design Research is one of the key Corporate programs carried out by Philips Design, providing new insights and territory for intellectual engagement and creating knowledge, competences and capabilities. Design Research consists of researching, experimenting with and developing new insights and methodologies, according to scientific principles, to create distinctive design services with a competitive advantage.

The Design Research program recognizes that design needs to change if it is to further enrich and interpret our cultures. It needs to respond to a new world, new economies, to the emerging needs of and expectations of people who want to participate and engage in transformational experiences. It needs to drive and build on the cultural qualities of this world, exploiting intelligent adaptive technologies in relevant ways.

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Design Research



TO:DO – Collaborative experience innovation

Integrating design, technology and business for rapid,

people-driven innovation *By Anton Andrews, Luc Geurts and Steven Kyffin*



PHILIPS

Abstract

Staying competitive means innovating, and innovation today is about creating compelling value for customers. It is as much about breakthroughs in user experience as it is about advances in technology. In the connected world, achieving innovation involves a wider variety of stakeholders than ever before.

This is compounded on the one hand by the need to innovate more rapidly and on the other by the need to differentiate in a saturated market.

We propose that innovation in this climate requires design, technology and business to be brought together in a collaborative and interdisciplinary way. We propose that it needs to be rapid and consumer driven and should effectively and mutually engage the stakeholders around the creation of a common, tangible demonstrator. This position paper illustrates such an integrated and goal-oriented approach to innovation and describes the creation of its first result, the Intuitive Connected Home II prototype.

TO:DO (Technical Objectives:Design Objectives), initiated in 2004, is a pioneering creative process that drives innovation by integrating envisioned user experiences with enabling technologies. By incorporating end-user insights from the start, this unique approach leads to solutions that both make sense to people's lives and leverage our technology assets. The approach uses the creation of a tangible 'slice of life' demonstrator to focus the partners and build on their individual expertise, encouraging the sharing of objectives and the creation of a common language.

We conclude that this collaborative approach to innovation has enabled a 'free flow' of information across partners from design, technology and business. It has resulted in a shared vision and viable propositions for innovation that are in line with technology roadmaps, product platform development and, most importantly, are based on consumer insights. Indeed, by working together for the future, Philips Design, Philips Research and our product development labs are maximizing the opportunity to create new and desirable human-focused solutions and IPR, providing a true competitive advantage to the company.

About Philips Design

Philips Design is a global community of professionals, focused on delivering competitive value to its clients through design. It strives for innovation in both its design services and in the solutions it offers.

At its core is a multidisciplinary team of researchers and designers which, over the past ten years, has been addressing how design can best serve people's current and future values & needs. It continuously develops and experiments with the latest methods in design research.

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Introduction

Innovative solutions today increasingly address a complex web in which products, services, technologies and user needs are interwoven. This in turn means that innovation is increasingly dependent on agreements within a larger group of stakeholders. This carries an inherent risk of slowing the innovative process down - precisely at the time it needs to speed up in the face of an ever more dynamic and volatile market. At the same time, traditional markets are becoming increasingly saturated, educated and brand wary. Companies can no longer rely solely on technology breakthroughs and incremental product development. Effective differentiation and real added value for the consumer is achieved by incorporating end-user insights in product innovation. Indeed, we believe this is vital in order to truly define and reshape the market.

This takes on an added significance when designing solutions for the emerging connected, digitally enabled world. Products and services increasingly overlap, everyday products are more intelligent and adaptive, and the talk is of 'systems' rather than stand-alone devices. Additionally, user needs evolve over time. Maintaining simplicity and understanding the user in such a landscape becomes a challenge. Ideas for innovation can quickly be hampered by technical limitations, incomplete use of user insights or lack of fit to existing business models. Philips' new positioning, Sense and Simplicity, is about bringing customers technology that is 'Designed around them', 'Easy to experience' and 'Advanced'. It is therefore vital that Philips incorporates human values, needs and desires from the very beginning of the innovation process. Our innovation activities need to be fed by a more flexible and collaborative approach than ever before. We need to align the way we innovate across disciplines, creating collaborative platforms to rapidly interconnect design ideas, technology solutions and business models.

We propose that innovation in this climate requires design, technology and business to be brought together in an interdisciplinary way in line with the 'open innovation' paradigm (ref 1). Most importantly, we propose that it needs to be consumer driven. We believe that such a process should effectively and mutually engage the stakeholders around a common, tangible focus. It should simultaneously support and catalyze the contributions of each participant, enabling a collaborative exploration of potential futures that can be translated to each partner's individual perspective.

I. The TO:DO rationale

The TO:DO way of working has been put into practice through a long-term collaboration (initiated in 2004) involving 11 partners from Philips Design, Philips Research, Philips Applied Technologies and Semiconductors Advanced System Labs. These partners work together on a shared set of objectives aimed at proposing and demonstrating longer-term applications for Philips' businesses. By working together, they have been able to combine qualitative user insights, enabling technologies and user-experience design into a timely and coherent set of future propositions that correspond with existing development objectives.

Human-focused innovation

The TO:DO approach puts the end user in a central position in the innovation process. By incorporating end-user insights from the start, it leads to solutions that both make sense to people's lives and leverage our technology assets. Ultimately, this will help Philips' businesses deliver on the Sense and Simplicity brand promise and further the company's competitive position in the emerging connected-solutions market. The partner's collective rationale for forming this collaboration is three-fold:

1. To use end-user insights and a focus on user experience to steer technology-based innovations, maximizing the chances that they will deliver on the Philips Sense and Simplicity brand promise;
2. To maximize consistency in innovation by focusing on synergies in related design and technology developments;
3. To create room for potential new business opportunities and Intellectual Property Rights (IPR) portfolio generation by jointly exploring new territories.

In addition, each partner in the TO:DO initiative has their own specific rationale for involvement in the project.

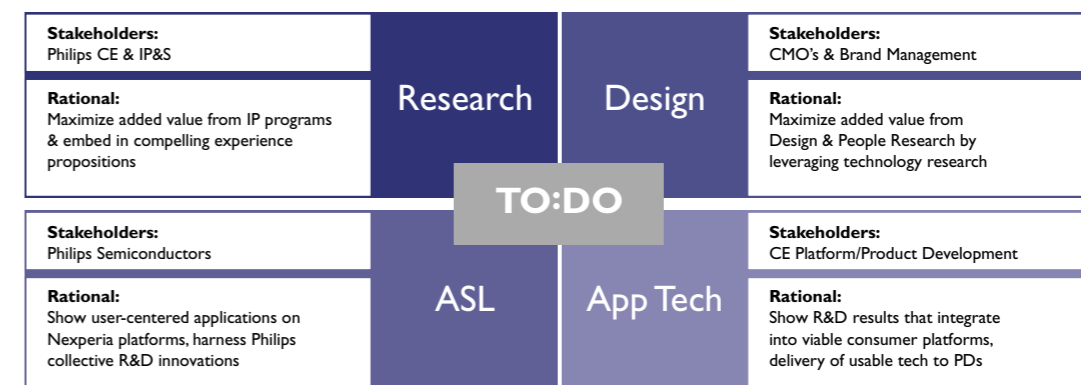


Figure 1

This position paper illustrates such an integrated and goal-oriented approach to innovation. TO:DO is a pioneering 'One Philips' initiative in which the integration of envisioned end-user experiences with enabling technologies has acted as the main driving force for innovation. The TO:DO initiative, short for 'Technical Objectives: Design Objectives' was started in 2004 as a mutual agreement between Philips Design, Philips Research, Philips Applied Technologies and Philips Semiconductors Advanced Systems Lab to work in partnership. In its first year, the TO:DO participants have targeted aspects of lifestyle, healthcare and well-being in the home and on the move. The first result of the TO:DO initiative is a tangible 'slice of life' demonstrator, the Intuitive Connected Home II prototype, demonstrating the application of specific Philips technologies to new and compelling connected consumer experiences that could feasibly be on the market in as little as 3-5 years time. Within TO:DO, three Personas have been created that led to the development of visionary user-centered 'slices of life' based on qualitative consumer insights and illustrating compelling moments of user experience. The technologies proposed to realize these 'slices of life' are either already available or are on the roadmap of at least one of TO:DO's partners. The Intuitive Connected Home (ICH II) demonstrator is the first outcome of the TO:DO approach and illustrates an interconnected series of possible connected consumer experiences within 3-5 years.

Philips' innovative TO:DO approach to innovation combines consumer trends with key technology innovations to enable the company to stay competitive with its technology, application and product developments. It has enabled a 'free flow' of information across the company and helped facilitate a shared 'language' in the form of a tangible articulation of new digital products that is in line with technology research roadmaps, digital product platform development and, most importantly, is based on consumer insights. Via a consortium of Philips projects, the approach aims to ensure and build a shared and realistic vision for new business directions for Philips.

Indeed, by working together for the future, Philips Design and Philips Research are maximizing the opportunity to create highly desirable and human-focused new solutions that provide added value differentiators for Philips.

Collaboratively giving shape to a vision

A crucial aspect of the TO:DO approach is that it starts with end-user insights, and ends in the joint development of a tangible vision demonstrator, in this case the Intuitive Connected Home II prototype (see case study). Building and communicating a tangible demonstrator creates a rallying point around which partners can discuss ideas, technologies and user insights in a very concrete context. The demonstrator serves to convey each of the partners' key objectives and assets, which could be anything from algorithms to envisioned use cases. The use of an experience demonstrator as a focal point for the collaboration also enables projects with different timeframes to work together, align mutual interests and inspire each other.

Roadmapping solutions together

In several ways, this collaborative approach to innovation helps roadmap solutions and increases the likelihood of successful and early transfer of results to the business. It helps pinpoint technology gaps and identify requirements for new technologies that can either be developed in-house or externally. It shows how results of research, design and development projects can be integrated at product level, so difficulties can be identified and requirements harmonized. It creates a physical representation of the vision (the demonstrator), which helps Philips 'claim' new areas, showcase integrated developments and even attract new strategic partners. And it creates a user-experience solution roadmap so envisioned solutions can be incorporated into development projects already underway.

Working as a consortium will ultimately create alignment of long-range technical research objectives, design research objectives and product platform development roadmaps. By sharing new application ideas, requirements and directions among the different stakeholders, programs can be aligned more effectively in the long-term.

2. TO:DO – The creative process

Any creative process that sets out to synergize the efforts of multiple stakeholders requires a clear structure and powerful creative tools. Philips Design has made the TO:DO approach effective in practice by introducing a sequence of three core tools – Personas, Experience Targets and 'Slice of Life' Experience Prototypes – to facilitate collaboration, idea sharing and cross-fertilization.

2.1 Personas

Because it is difficult to predict how technology is used in daily life, the involvement of user insights from the beginning of the innovation process is crucial in the development of solutions that make sense. Philips Design has developed a unique approach to embedding user insights by using Personas. Personas are fictional

characters based on real-life data (in-depth interviews, observations and home visits) and people research (co-research and socio-cultural trends research). The richness of information they bring is useful throughout the innovation process for direction setting, solution creation and concept testing. For the Intuitive Connected Home II prototype, three 'Personas' were created from interviews during field studies in Europe (ref 2) and used to provide qualitative consumer insights and identify key user needs and experience challenges.

2.2 Experience targets

The second innovation tool provided by Philips Design, Experience Targets, signals a shift away from wrapping a consumer experience around a predefined solution, and focuses instead on building relevant solutions around key end-user experiences. The TO:DO partners jointly defined a spectrum of early 'sketch' use cases relevant to their development roadmaps and to the Philips businesses. Qualitative end-users insights, captured in the form of Personas, were then set in the context of technological developments and socio-cultural trends to create an overall picture of potentially 'key' connected consumer experiences. By formulating these into so-called 'experience targets' (ref 3), measurable objectives and common goals for innovation are set for all partners. The targets provide a common focal point for generating compelling user-experience solutions. They become landing zones for technology research results, design solutions and new business models, facilitating the creation of future solutions, next generation product platforms and new design paradigms.

2.3 Defining a 'slice of life'

Personas and Experience Targets form the basis of the so-called 'slice of life' method used by the TO:DO consortium. A 'slice of life' is an every day story that brings a Persona's needs to life. It consists of a number of moments of user activity that cover several locations, devices, features and applications. Philips Design has previously shown an example of a 'slice of life' with the Intuitive Connected Home I (ICH-I) demonstrator at CRE2004 (ref 4). In 2005, the TO:DO consortium's Intuitive Connected Home II prototype (ICH-II) uses three interlocking slices, based on the lives of three Personas, to demonstrate how people can enjoy, share and creatively use digital content in simple, effortless and highly intuitive ways (ref 5).

Rather than focusing on the devices or applications themselves, a 'slice of life' describes the experience across devices and locations. A 'slice of life' therefore does not include in-depth details of any device or application but only what is relevant to the activities in question. Each moment of user activity should make sense on its own and illustrate a compelling moment of user experience. It should also show how technologies can benefit users when applied in an ingenious way. The three slices of the ICH-II demo present a seamless fusion of home entertainment with lifestyle, well-being and healthcare applications.



Figure 2

Seven phases

Overall, the 'slices of life' demonstrator is created in seven main phases involving all TO:DO project partners:

Phase 1 – Main trends and starting points

A kick-off workshop focuses on aligning the objectives of all technology partners. Key focus areas are identified and a limited set of sensible and feasible use cases defined.

Phase 2 – Draft 'slice of life' scenarios based on Personas

A number of Personas are created, whose 'consumer insights' allow Experience Targets (tangible key user benefits) to be defined. Draft high-level scenarios are

developed based on the Personas as well as the shared objectives of all partners. These scenarios help identify where each partners' technology could be applied, showing the key benefits of their innovation in a human-focused experience context.

Phase 3 – Scenario refinement and rational definition

The draft scenarios are filtered and refined into use cases by matching and scoring them against user needs, available partner technologies and, eventually, business models. For each use case, the partners identify the combination of precise technologies that would enable the user experience in the best possible way. Typically, a number of iterations are needed to finalize each use case in detail. Since the creation of a tangible demonstrator is the final aim, some attention is already paid to how the use cases could be prototyped.

Phase 4 – Experience demonstrator definition

To ensure that the demo is believable and that the demonstrated 'user experience' is achievable within the given timeframe, it is important to identify the right level of prototyping for each use case in the 'slice of life'. This also serves to ensure that the user experience remains the focus and that concessions are not made because of technical limitations. Where possible, a decision is made to integrate real working technology and platforms into the demonstrator to stress its feasibility. In some cases, where integration effort would outstrip value to the demonstrator, the use cases are 'simulated to specification'. As a result, each of the use cases maps to technologies that are either already available or on the roadmap of at least one of the partners.

Phase 5 – Experience demonstrator creation

An experience demonstrator is then created, consisting of simulated and real working technology elements. The demonstrator should clearly illustrate compelling and innovative user experiences that correspond to the Persona's needs and are enabled by a combination of new technologies, design solutions and business models.

Phase 6 – Communication

A communication story is then created that shows the developed demonstrator from an end-user perspective. In this way, the value of the technology IPR is clearly demonstrated by showing its relevance in an everyday context.

Phase 7 – User and business feedback

User feedback is gathered through the early testing of the tangible concept prototypes. It is important that the testing of tangible concepts is not confused with usability testing or product testing. The objective here is to receive feedback on the principles of the solution rather than the solution as presented, since it is not a finished product proposal. As a part of this, the validity of the Experience Targets defined in Phase 2 can be tested.

3. Case Study: Intuitive Connected Home II

The Intuitive Connected Home II (ICH-II) demonstrator (ref 5) is the first result of the TO:DO initiative, and shows the clear advantages this way of working brings. It involves technological innovations and input from Philips Research, Philips Semiconductors Advanced Systems Lab, Philips Applied Technologies and Philips Design (see Figure 3). Guided through the phases of the creative innovation process described above by Philips Design, the TO:DO project partners collaboratively conceived the Intuitive Connected Home II demonstrator.

Figure 3: TO:DO 2004/5 Partners

Philips Research:	ACE Like Music & Cassandra BRAINS for HDS Direct Control DRM@home and on the move E-Hub Home-to-Home Net Intelligence PIC
Philips Semiconductors:	ASL BL Identification
Philips Applied Technologies:	AIM & Concept Car Team (ACT)
Philips Design:	NSD: Design Research

Simple, effortless and intuitive

The Intuitive Connected Home II presents a challenging vision for the future of connected living. It shows how people can enjoy, share and creatively use digital content in simple, effortless and highly intuitive ways. By aligning developments in design and technology, the demo presents a seamless fusion of home entertainment with lifestyle, well-being and healthcare applications. The demo is set in three next generation connected 'homes', belonging to the Personas Aaron, Jasmine and Jean, and illustrates potential connected consumer experiences in 3-5 years time.

From insights to experience

The Intuitive Connected Home II prototype focuses on moments of user activity that demonstrate how the users can realize their intentions across several devices and locations. Each use case in the demo highlights the application of one or more relevant, enabling Philips technologies from the project partners. By introducing user needs as a focal point, Philips Design facilitated the application of these technologies and led the development of use cases that matched consumer insights. The resulting interface and interaction elements focus on a user experience of simplicity, based on the principle of intuitive and creative flow and on intelligent and adaptive features.

The demonstrator shows a focused set of exciting, medium-term use cases targeting the next generation of the Connected Planet vision. By integrating design and technology objectives, ICH-II proposes visionary yet achievable value-added differentiators that fit our research and development roadmaps.

Connected Home 1: Aaron's world of sports and music:

For Aaron, a socially active 23-year-old student, the demo presents an enhanced music experience for a sports lifestyle. It shows how he can intuitively search through his music collection, create playlists on the fly and transfer music to his mobile by touch. On the move, he can intuitively and legally create a proximity-based shared playlist with his friends, enjoy the music synchronously during sports and later access and easily purchase the new, shared music when alone.

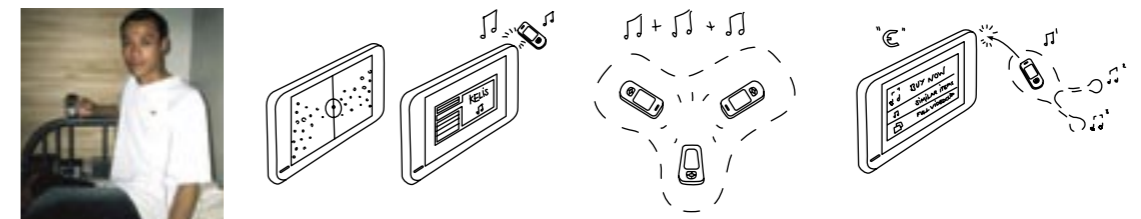


Figure 4: Aaron

Connected Home 2: Jasmine's 'circle of care':

For Jasmine, a 36 year old working mother, the focus is on simple ways to maintain a 'circle of care' with her mother-in-law and to creatively share experiences with her family, both together and apart. Jasmine's family is able to stay aware of Grandma's health status and can intuitively share photos with each other and create a slideshow together on the living room TV, fluidly joining in to use one device in a simultaneous social activity.

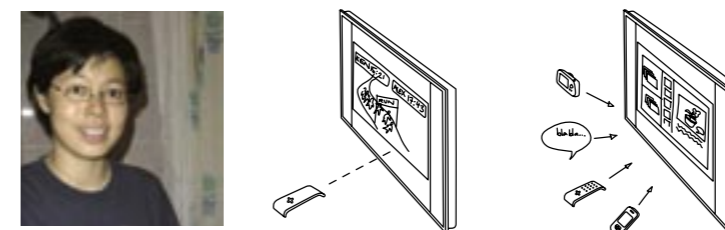


Figure 5: Jasmine

Connected Home 3: Jean's 'home help':

Jean, Jasmine's 65 year old mother-in-law, is recovering from a heart condition. The focus here is on 'smart simplicity and assistance' while browsing content and using her healthcare applications at home. At home, Jean can easily retrieve, browse, display and print digital media content and carry out self-monitoring for personal healthcare. She can do this in a natural and intuitive manner with the assistance of a new tangible pointing interaction paradigm and an emotive and smart home dialogue system.

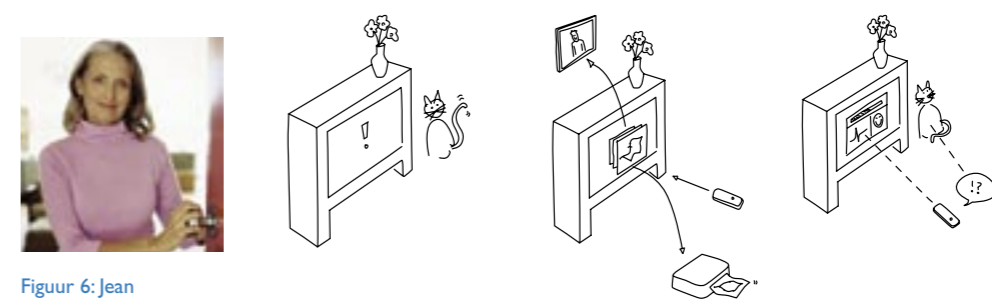


Figure 6: Jean

4. Why work together?

There are a number of clear advantages to working together within Philips as proposed by the TO:DO approach. Often, individual businesses focus on their existing roadmaps and need help to 'break out' and notice new opportunities. New directions are especially interesting when backed by technologies and platforms that ensure timely development and help give new and exciting products a jump start. Working within TO:DO has helped the partners involved venture into new business directions in a number of ways:

Creating new user experiences

Working as a team across technology, design and business assists the identification of new key scenarios relevant to technology research and business development. By focusing on end-user experiences, opportunities can be prioritized. And by designing solutions that show technology in context, the 'human' value of technology is underlined.

Protecting future businesses

By designing user interfaces, interactions and products that show technical innovations in a context of use, new directions for business are explored. The technologies considered for use can be protected by a focused portfolio of IPR. This gives a head start to the creation of competitive advantage for Philips. In addition, a consistent set of application-oriented and related technology focused IPR will serve to protect new business.

Early exploration of markets

Early experimentation with novel applications based on early or emerging technologies allows for the advanced development of 'high potential' application areas. This helps increase 'confidence' in the new technologies and creates awareness of new business opportunities. It also helps the business focus on starting up further initiatives that support the introduction of new innovations

Delivering on Sense and Simplicity

By designing and engineering solutions for real-life situations, based on the Personas, it becomes clear how technology can offer new value for people in compelling ways. It also helps Philips deliver on the brand promises of 'Designed around you', 'Easy to experience' and 'Advanced'; the three pillars of Sense and Simplicity.

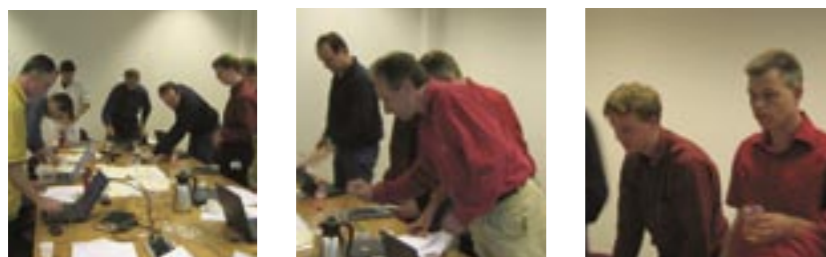


Figure 7

Conclusion

Philips' innovative TO:DO approach has enabled a 'free flow' of information across partners from design, research and business and has helped facilitate a shared 'language' by focusing on a tangible articulation of new digital solutions. This has resulted in a shared and realistic vision for innovations that is in line with technology research roadmaps, digital product platform development and, most importantly, is based on consumer insights. Indeed, by working together for the future, Philips Design, Philips Research and our product development labs are maximizing the opportunity to create highly desirable and human-focused new solutions that provide value-added differentiators for Philips.

There are four main conclusions:

Enriching our Competitive Position

Working together generates considerably more progress in each of the otherwise separate research domains. By combining advances in emerging technologies and user-led design, it has been possible to propose new applications that point out the 'human value' of Philips' technology IPR and create inspiring insights for next-generation product development. This combined approach allows the early discovery and protection of realistic opportunities that have the potential to add a competitive edge to Philips' business.

Unlocking Creativity

TO:DO has intensified the working relationships between the disciplines by identifying and agreeing on the goals of the projects at the earliest stage. This releases more creative possibilities and options, which in turn can be rigorously testing from all standpoints without the fear of being rejected on the grounds of 'not invented here'.

Sharing the Vision

A key aspect of the TO:DO approach is that it uses the joint development of a tangible vision demonstrator to mutually engage the partners around a common goal. This creates a rallying point around which partners can discuss ideas, technologies and user insights in a very concrete context. It also enables projects with different timeframes to work together, align mutual interests and inspire each other. As a synergetic outcome that combines design, technology and business roadmaps, the experience demonstrator is considerably more powerful in projecting the ideas of all the contributing partners than presenting them individually.

Focusing on People

By incorporating end-user insights from the start, the collaborative TO:DO approach leads to solutions that both make sense to people's lives and leverage our technology assets. Ultimately, this will help Philips' business prioritize opportunities that can deliver on the Sense and Simplicity brand promise. Also, by emphasizing context of use and cultural relevance, the 'human' value of technology is underlined and any risk that 'technology-push' strategies might occur out of human context is minimized at the earliest stages.

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TO:DO coordination:

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References

Ref 1: Open Innovation, Henry William Chesbrough, March 1, 2003, Harvard Business School Press

Ref 2: Understanding People in New Ways, Monica Bueno, Lucille Ramaeckers, Design Research position paper, Philips Design

Ref 3: Putting the Customer First, Anton Andrews, Design Research position paper, Philips Design

Ref 4: Intuitive Connected Home I, Anton Andrews, Luc Geurts, Design Research project document, Philips Design

Ref 5: Intuitive Connected Home II, Anton Andrews, Luc Geurts, Design Research project document, Philips Design

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Luc Geurts works as a Senior Consultant for Philips Design in the Netherlands. He currently leads the design research cluster 'Digital Design Paradigms'. Luc graduated in 1993 in Computer Science & Engineering at the Eindhoven University of Technology. After this he followed a post-masters program in technological design. In 1995 he joined Philips Research where he researched the application of new interaction technologies and networked entertainment devices. After five years in technology research, Luc found a new challenge at Philips Design. Working extensively on design research projects, he combines his knowledge on software, user interaction and emerging technologies by creating experimental prototypes that articulate new user experiences. In this context he enjoys the challenge of incorporating early results from Philips Research and predevelopment activities from the Philips businesses.

Steven Kyffin (Master of Design, Industrial Design, Royal College of Art London) is Senior Global Director of Design Research and Innovation at Philips Design in the Netherlands. In this function he is responsible for the Design Research program in Philips Electronics worldwide. Steven Kyffin joined Philips in 1998 having been Director of the Industrial Design department at the Royal college of Art in London since 1995, run his own design practice and worked in a number of international London-based consultancies since the early eighties. In Philips Design he is a member of the Global Management Team and works from the CEO's office within the General HQ in Eindhoven, NL. He also heads up Philips Design's European Commission Research program, sits of the Co-ordinating Group of the 'Convivio' research community and leads the Philips Design University Relations Program, through which he acts as adviser to a number of universities on their Design Research programs.

Philips Design NSD Side Story

The TO:DO initiative was supported by Philips Design's Design Research program. Design Research is one of the key corporate programs carried out by Philips Design, exploring new application territories and emerging challenges to create cutting-edge knowledge, competences and capabilities. It consists of researching, experimenting with and developing new insights and structured methodologies to create distinctive design services with a competitive advantage. About Philips Design is a global community of professionals, focused on delivering competitive value to its clients through design. It strives for innovation in both its design services and in the solutions it offers. At its core is a multidisciplinary team of researchers and designers which, over the past ten years, has been addressing how design can best serve people's current and future values and needs. It continuously develops and experiments with the latest methods in design research.

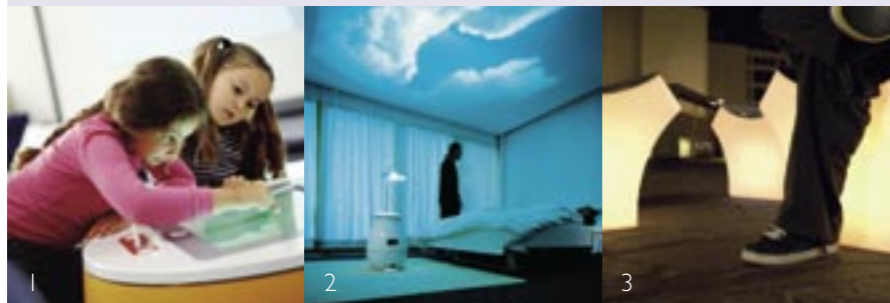


Figure 8
1. POGO: active tools for a virtual story world
2. Nebula: enriching the home experience
3. Glowing Places: interactive lighting for public seating