

Fred Boekhorst

Programme manager Interactive Systems

In Research Circle of January 2003, Fred Boekhorst gave a short view on his programme.

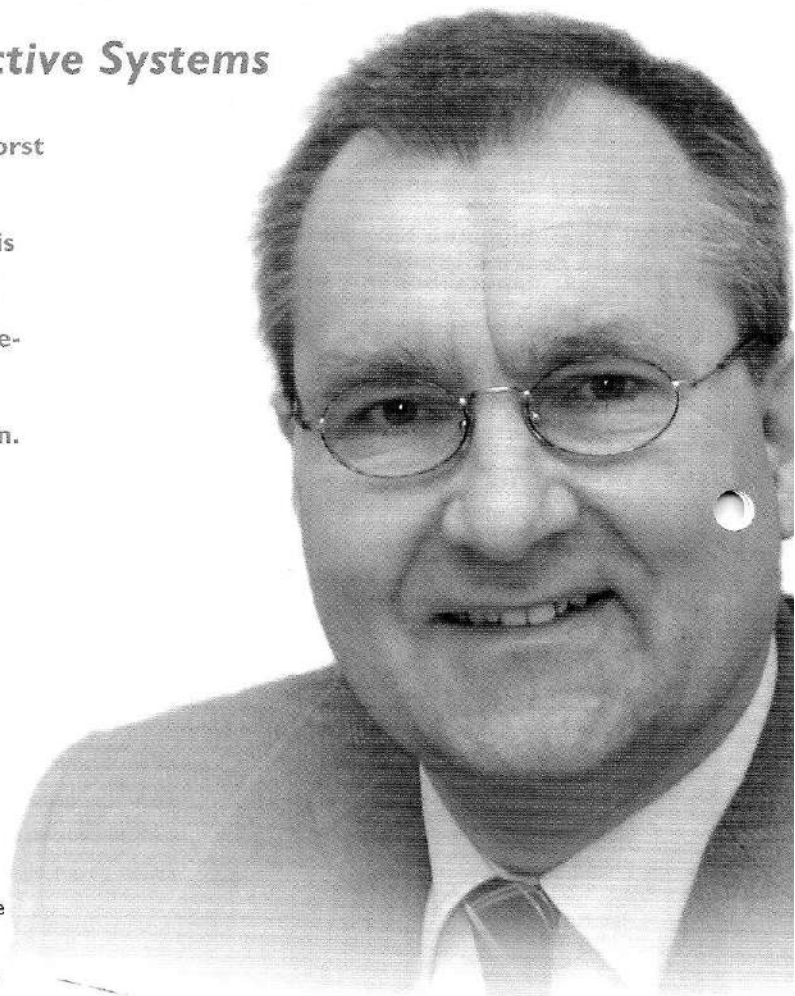
His mind is unchanged in that this programme is very challenging, having to lead the way toward transforming a box-based business into a service-oriented business, where functionality is much more distributed across a content delivery chain.

What is the main purpose of the programme?

Its main purpose is to create value for Philips through innovations in the field of future *Connected Home* systems. These systems are rapidly changing. The doubling of compute power and storage capacity in every 18 months enables ever-more demanding signal-processing tasks in miniaturized devices. The innovation in access network technology enables novel broadband content at demand, while innovation in wireless-network technology allows a connected content experience on any desired place. The increased interoperability allows products to 'join forces', thus offering new functions and decoupling of functions from boxes.

Ambient Intelligence

Our long-term view on *The Connected Home* is called 'Ambient Intelligence'. It has already been addressed in many articles, also



How do you see your role?

It is my responsibility to provide vision and guidance for our programme. Therefore, I manage the customer relationships and keep an eye on the overall value creation potential. I take care of the conditions for my people by providing the needed organizational support. Also, the cross-connections to the other programmes has my continuous attention, since I strongly believe that innovation often takes place at the boundaries of 'existing areas'.

We have to provide an economically viable route towards Ambient Intelligence

in the Nat.Lab. Journaal. It is essential, however, not just to predict the ultimate situation, but rather to provide an economically viable route towards that goal. To outline and realize such a roadmap together with the businesses of Philips is a prime responsibility of our programme. Our programme is focused on Philips Consumer Electronics and Philips Semiconductors, and should extend their current portfolio in new directions.

Who are involved?

The main groups involved are those of Maurice Groten (Media Interaction), Carel-Jan van Driel (Digital Signal Processing) and Jean-Paul Linnartz (PacMan), and those of Simon Turner from Philips Research Redhill and Eric Thelen from Philips Research Aachen. Through part of the Storage Systems programme, the group of Simon Blanchard in Philips Research East Asia (PREA) also supports our Interactive Systems programme, in particular

for digital TV and interactive distance-learning applications. We consider the potential impact in China quite high. In total, the head count of the programme is about 160. Next to many smaller university relations, we also have a number of big external cooperations, e.g. with MIT (Oxygen alliance), in the AIR&D consortium, (Philips, Thomson MM and Inria), and in the TIPSCI project (Philips, IBM, Telematica Institute).

standards, now in combination with Intertrust's IPR. Secondly, novel services, enabled through unique content identification, either used opportunistically (music recognition service) or defensively (tracing). We have a good IPR position in the enabling technologies and are expanding our IPR position in DRM.

We focus on the primary task of helping Philips grow through innovation

Which are the important themes of the programme?

Media processing

Its main goal is to optimize the audio/video experience through high-performance algorithms for processing and coding of audio/video signals. The value creation for processing is found in transfer of unique selling propositions to our PDs, such as Incredible Stereo or PixelPlus, whereas the value creation for coding-related work comes via standardization and subsequent license income. Media processing is the traditional stronghold of Philips and since existing products often rely on it for differentiation, the business is very keen to integrate its results into products.

Secure systems

The main goal of secure-systems technologies is to enable digital content and products to be used, respecting rules of ownership and copyrights. As such, this field has enabling-technology components (fingerprinting, watermarking, crypto technologies) as well as systems components such as digital rights management (DRM) and authorized domains. Several value creation mechanisms are coming about. First of all, the license income from intellectual-property rights (IPR) in

Content management

The main goal of content management is to support a pleasant usage experience by managing the content in a userfriendly way. This implies innovative ways of automatically providing data about the content (metadata), about the user (personalization) and about the context of use (system awareness). The value creation in this field is through unique differentiators for products that perform content access, as well as through IPR generation

User interface technologies

Its main goal is to enhance the user experience with our systems, devices and services. Research is being done on reusable (generic) interaction technologies, which can be applied to different systems, products or application scenarios, and makes them available in the form of (e.g.) software modules and descriptions of algorithms.

Applications, systems and services

Its main goal is to explore novel product and service concepts, to be tested for feasibility and usability in HomeLab. Value creation in this field is mainly through concept testing and refinement. A specific important value-add is the user-centred approach to discover early on the essential aspects of usability and attractiveness of any new product or service concept.

What is your opinion on programme management?

In my view, the move towards programme management has been a good one, in particular because of the articulated accountability for value creating, which is an important step, way beyond a mere coordinating role. It eliminates unfruitful allocation discussions and focuses us on the primary tasks of helping Philips grow through innovation.