

---

## Innovation at Work - Alcatel-Lucent's WebTV Transcript for edition 05/2009 - Bell Labs

**Hugh SCHOFIELD**

In this edition of Innovation at Work, we're looking at that bubbling cauldron of ideas which is the Bell Labs. As Alcatel-Lucent's research arm with branches in India, China and Europe, Bell Labs attracts some of the brightest scientific talent from all over the world. They come here to exercise their passion for top-level technological research and to see the fruit of that work carried through into real-life products.

**Hugh SCHOFIELD**

So as our first port of call I've come to the top floor balcony where I'm joined by someone who knows Bell Labs very well indeed: Alice White, you're location leader North America and you've been here I think... 27 years?

0/2009

**Alice WHITE**

... almost 27 years, yes, seems like yesterday...

**Hugh SCHOFIELD**

What would you say it is that makes Bell Labs different?

**Alice WHITE**

I would say the people that work here. It's an amazingly stimulating environment. You know when I came, I came to do a particular kind of very basic science, I've had a chance to change every few years to change completely what I do and I've learned fabulously from the people that I've worked with.

**Hugh SCHOFIELD**

Is it a competitive place?

**Alice WHITE**

It's a place where people are continuously learning. So everyone is trying to keep up with the technology, trying to invent new technology, trying to understand technology and figure out how to apply that for things that are important to the company. So they are keeping in touch with the outside world, they are trying to understand deeply the science and the engineering of technology and they are trying to share it with everybody.

**Hugh SCHOFIELD**

One aspect of the Bell labs philosophy is the notion of personal contact. Breakthrough ideas can come unpredictably, from a stroll down the corridor or a lunchtime chat with a colleague working on a completely different project - the idea is to create the kind of intellectual ferment where the inventions can simply spring to life. The other key element is allying creativity with entrepreneurship: new ideas here are encouraged down the road of business development, some of them are commercialized by a setup called Alcatel-Lucent Ventures which pinpoints the brightest prospects and fast-tracks them to the market.

**Hugh SCHOFIELD**

To talk more about the process of getting a product to the market, I'm joined by Markus Hofmann who is head of Service Infrastructure research here. Markus, what is it that makes an invention marketable?

**Markus HOFMANN**

Well, we need to look at three different aspects and we need to actually look at them in an integrated way. So first of all, for an invention to be marketable, we need to solve a relevant problem, it has to be relevant for the consumer, for the user - we need to solve a pain point for the user. The second step is the solution: we then need to develop a solution that solves that problem and pain point for the user. And then the third, and equally important is the business model. We need to find the right business model that allows us to go to market with that solution in a feasible way.

**Hugh SCHOFIELD**

As far as research is concerned, it must be a delicate balancing act because you can't tell researchers to come up with marketable ideas?

**Markus HOFMANN**

Absolutely correct, you cannot order a researcher to invent the next big things. So what we need to do - we need to create an environment that fosters and facilitates these grass roots developments or activities that allow these researchers to come up with those new ideas. So what we do is we allow the researchers to go out, talk to customers, talk to consumers, be in the market, to realize what's the real problem there. Then they come back and then we create an environment here that allows those researchers to bounce these ideas off each other to create new ideas, test them with each other, and then actually we put the structure in place to execute on these projects.

**Hugh SCHOFIELD**

Hundreds of innovations are being born here at the Bell Labs every year. Some of them are highly specialized - the kind of thing for example that might simplify one tiny step of sending a digital message, but by doing that billions of times every day can save huge amounts of energy use. One recent example of a breakthrough is what's called the Photonic Integrated Circuit - it's a way of miniaturizing and therefore making more efficient the optical networks that will allow us soon to have transfer speeds on the Internet of 100 Gigabits a second.

Well to talk more about that I'm joined by Martin Zirngibl, who is head of physical hardware research. Martin, what is it about these Photonic Integrated Circuits that's so special?

**Martin ZIRNGIBL**

A Photonic Integrated Circuit is what you replace as hand assembled by printing. And that gives you huge advantages in terms of manufacturability, it reduces footprint and it makes a huge impact on the cost as well. We believe that this is important for applications like video on demand that will really drive the bandwidth demand on the network by orders of magnitude.

**Hugh SCHOFIELD**

What is it about Bell Labs that allows the development of ideas like this?

**Martin ZIRNGIBL**

At Bell Labs, we really have the freedom to focus on the important problems. If you just have to solve the problems of tomorrow, just development, you cannot really work on these optic technologies. We look further ahead, five ten years out and we look what are the real problems

that will hit us within a few years and then we focus on those. That's how you can come up with disruptive technologies and solve real problems.

**Hugh SCHOFIELD**

Martin thank you very much indeed

**Martin ZIRNGIBL**

You're welcome

**Hugh SCHOFIELD**

I hope that gives some idea about why Bell Labs is such a precious member of the Alcatel-Lucent family. A high-tech company is nothing without ideas, and this is where they are born. Well that's all for this edition of Innovation at Work, but join us soon for more insights into the fast-changing world of telecommunications.