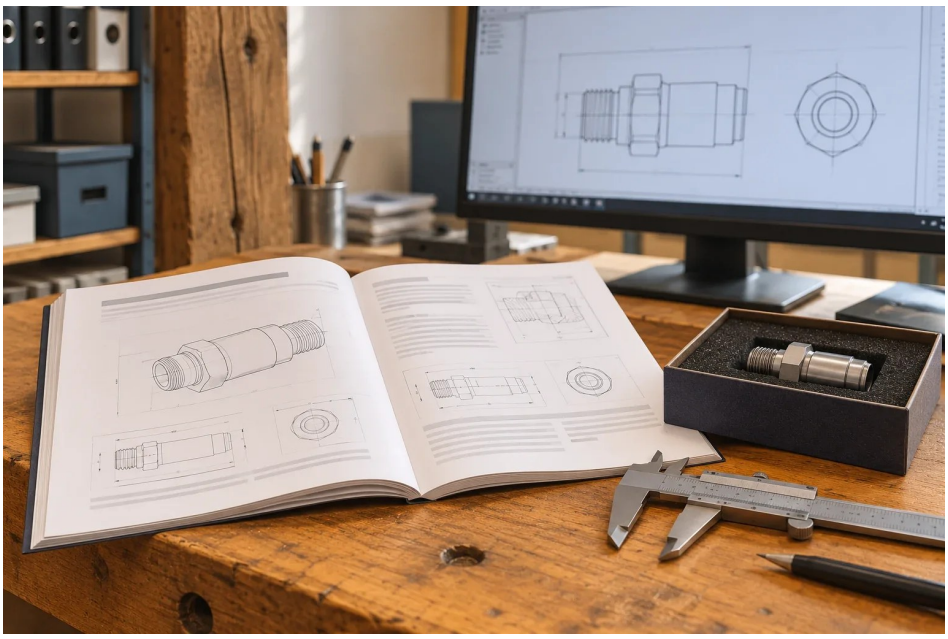
LOGICIELS ET IA

Capability before use

Xerox, NVIDIA, la lampe de poche du téléphone et les combles de Zenith au Locle : quand une capacité attend son usage, et ce que cela dit du savoir-faire d'une entreprise.

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Some inventions wait years for the world to need them. Others answer a need that is already there. And sometimes the most valuable resource is asleep inside the company itself, in the know-how of the people who work there.

Xerox and PARC

In the 1970s, Xerox is the famous maker of photocopiers, so famous that its name became a verb in English for "to photocopy". The company also funds a research centre in Palo Alto, California, in the heart of what would become Silicon Valley: PARC. Its researchers develop a computer operated with a mouse, with windows on the screen, at a time when people still type commands on a black screen with a blinking cursor.

Xerox is not sure what to do with these inventions. In 1979, a young entrepreneur named Steve Jobs visits the centre. A few years later, windows and the mouse are in the Macintosh, then in Windows. Today nobody can imagine a computer without them.

Xerox had the capability. It lacked the use.

NVIDIA, the opposite story

NVIDIA, a maker of graphics cards for video games, did exactly the opposite. At the end of 2006, the company released a gaming card capable of far more than displaying images, and the following year opened up CUDA, a technology that makes it possible to use that power for all sorts of calculations. CUDA is installed everywhere, on every card sold, with its drivers and tools, and for years almost nobody uses it.

Then artificial intelligence arrives, and it needs precisely this kind of computation. The world discovers that millions of machines already have what it takes.

Today a fairly common gaming card, an RTX 4060 for example, is enough to run an AI model locally: to write, summarise, sort documents or write simple code, without sending a single line outside. The cards with the most memory now sell at gold prices. AMD is catching up, but NVIDIA had taken the lead well before the race began.

The general public only began using AI day to day two or three years ago. Between the 2006 card and everyday use, almost twenty years went by. For our part, we only really had a use for it from the end of 2025. Four RTX cards were then serving us for virtual reality. All CUDA-compatible, they became working tools for local AI.

Listening to the need

The telephone had the opposite history. From the first smartphones, developers had a very simple idea: display an entirely white screen to use as a lamp. These apps were a real success, because the need was there. When phones were given a flash on the back for photos, manufacturers turned it into a built-in torch. They had invented nothing: they had listened to users.

BlackBerry, for its part, had the best keyboard on the market, a real physical keyboard, just when the touchscreen swept everything away. The capability was there, but not in the form that people were going to want.

In January 2007, presenting the iPhone, Steve Jobs shows precisely these phones with keyboards and points to the problem: the bottom 40% of the device. Keys fixed in plastic, always the same, whether you need them or not, and that nobody can adapt to what they are doing. He was not the first to offer a touchscreen: other manufacturers, HTC for example, were already selling them, and they worked very well. His stroke of genius was to tell everyone: you need this.

So there are two ways to succeed: respond to a need that is already being expressed, or build a capability before the need appears. The second is far rarer, and far riskier. NVIDIA waited almost twenty years.

Zenith, in Le Locle

The most telling example is very close to home. In 1975, the quartz watch upends watchmaking, and Zenith's management decides to stop production of the El Primero, its famous chronograph movement. Charles Vermot, one of the watchmakers who had designed it, refuses to see this know-how disappear. In secret, he hides the plans and the manufacturing tools in a walled-off part of the manufacture's attic.

About ten years later, the mechanical watch comes back into favour. In 1984, Zenith is able to restart production. The company had a fortune in its hands, thanks to one man who knew what this know-how was worth when nobody else could see it.

And in your company?

Every company has its attic. Not necessarily forgotten machines, but experience, methods, documents, a way of working built up over the years by the people who work there. All this sometimes seems of no interest, until the day a new tool needs precisely this knowledge.

That is what is happening with AI. An assistant is only as good as what it is given to read. A company that has documented its know-how, filed its records and written down its procedures already holds the most valuable material. And it is often in the heads of its staff that it is to be found.

Putting this knowledge in writing has been one of our trades for more than twenty years: technical documentation. With AI, it takes on a new value.

Sources

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- Phillips: Five Key Dates, The Zenith El Primero
- Jon Peddie Research: the GeForce 8800 GTX and CUDA