GETTING ON WITH AI: A FACTORY IN HESSE, GERMANY

With Sabine (Remdisch) I recently spent time at Rittal's plant in Haiger, Germany – by some measures the most advanced factory in the world manufacturing equipment enclosures for data centers – and I have been thinking about it ever since. What impressed me was not the automation as such. It was **the coordination of temporal scales**.

On the production line, robots work in milliseconds: sensing, adjusting, correcting at rhythms no human hand could follow. Around them, people work at human tempo – planning, maintaining, judging, intervening where judgement is needed. Automated vehicles thread the intralogistics at the pace of the day's orders; a digital twin of the whole plant runs alongside it in machine-time; the delivery promise is measured in hours across Europe. And beyond the factory gates the horizon stretches further still: a large share of what Haiger makes are enclosures for the world's data centers – the housings of the very computational infrastructure whose energy and water demands now weigh on climate policy, measured in decades, even millennia.

A single object on the line participates simultaneously in the millisecond of a weld, the hour of a delivery, and the century of the biosphere.

This is what I mean when I say that **AI is not a tool** but a participant in heterogeneous ecologies of making. Nobody at Haiger polices the robots or demands they confess their contributions. Nobody pretends the people are incidental. The work *is* the coordination — different orders of agency, different speeds, different scales of consequence, held together by design, trust, and constant mutual cybernetic adjustment. It is Andrew Pickering's mangle of practice at industrial scale, and it delivers — positively and *negatively*.

The academy could learn something here. While universities debate whether students may be permitted to think with machines, the world of making has simply got on with it — and its real questions are the serious ones: not *whether* to work with these new companions, but how to hold the milliseconds, the decades, and millennia together responsibly. That is a question worth teaching.

Rittal — a leading global supplier of enclosures and data-center infrastructure. €250M investment, some 250 networked machines, up to 9,000 compact enclosures a

day, 24-hour delivery in Germany, and the 2022 Industry 4.0 Award and “Factory of the Year 2025”. [Link]