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FOREWORD

With the explosion of generative AI and large language models, the title of this edition of *HindSight* is more timely and appropriate than ever when it comes to people and technology. I am writing this article a few months after I jumped the fence from safety to technology. I am now in the Chief Technology Officer position at EUROCONTROL and I see how much internal and external pressure we have to start using AI.

At the time of writing, I am just out of a meeting with Microsoft regarding responsible and ethical AI. They have given a great insight on how to start using AI. First, lay the foundation of governance and then progress to day-to-day usage. When I see how our great minds of 'Eurocontrollers' are jumping immediately on exploring AI it makes me wonder whether the train has already left the station. Perhaps it will be hard to catch up.

The exponential growth of AI poses key questions on how much control we will still have in a not-so-distant future. We see more and more papers, theses and books written with AI. It makes me wonder whether we will reach a tipping point when we read only stuff 'written' by machines? Could there be a new era where humans stop writing? If so, we are at peril because we stop learning.

In aviation and especially in air traffic control, we have always been and felt 'in control'. Air traffic controllers, engineers, and managers felt in control, but seeds of doubt are spreading. An industry that is conservative may overreact and prevent the benefits that AI could bring. But how do we achieve the right balance? Which tools and products should we accept? We have very strict certification processes that require repeatability, transparency and trustworthiness, which may not always be easy to demonstrate when we use AI.

I regularly read a blog of Gary Marcus. His research is at the intersection of cognitive psychology, neuroscience, and artificial intelligence. He recently wrote that: Generative AI is "*a kind of alchemy. People collect the biggest pile of data they can, and (apparently, if rumours are to be believed) tinker with the kinds of hidden prompts... hoping that everything will work out right.*" He suggests that we need "*altogether different technologies that are less opaque, more interpretable, more maintainable, and more debuggable - and hence more tractable - remains paramount.*"

The World as You'll Know It
humans vs. machines

with **Gary Marcus**
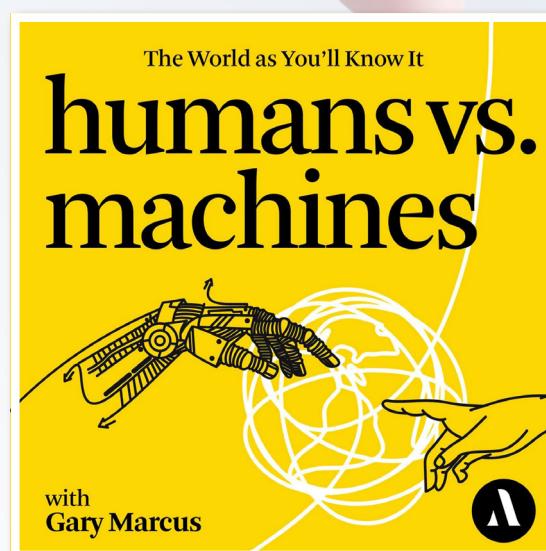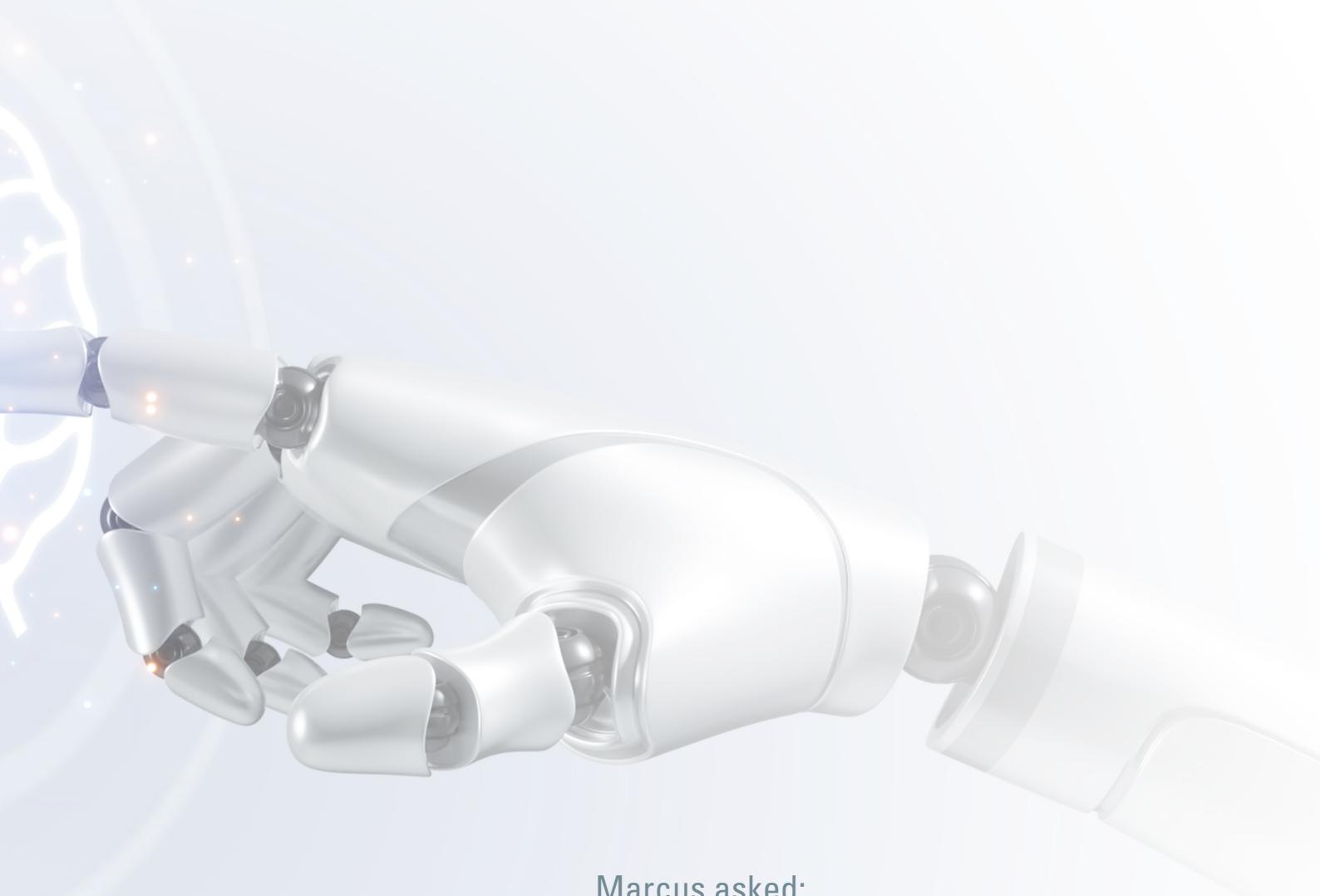
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"which is better – human vs. machines?"

Marcus asked which is better – human vs. machines? "*Many people think that the human mind is the apotheosis of cognition. I don't*", he recently wrote. He doesn't worship the human mind when it comes to thinking; we have many flaws. Marcus thinks that AI should not aspire to replicate the human mind, but to supplement us, where we are cognitively frail, and to help us, for example, with jobs that are "*dull, dirty, and dangerous*".

I am, however, an incurable optimist, and I think we are still and will still be ahead of machines. Humans still perform well on many things that AI is still poor at. But yes, we have flaws. Eventually, we will find a balance and a partnership. At the moment, we are still trying to work out how to stay in control, while giving increasing control to AI. The sooner we realise that humans and machines are different, each with important roles, the better.

But the issues involved in being in control and staying in the loop go far beyond 'people vs machines' arguments. It is about how we work day-to-day, not only in human-machine systems but as teams, organisations and industries. How do we communicate and collaborate, formally and informally? How can we remain vigilant

and prepared? How can we avoid the unwanted effects of surprise? These are old issues, and have been covered in previous issues of this magazine, but are as important today as they ever were, or even more so. These are some of the questions that will be explored in this issue of *HindSight* on People in Control.