



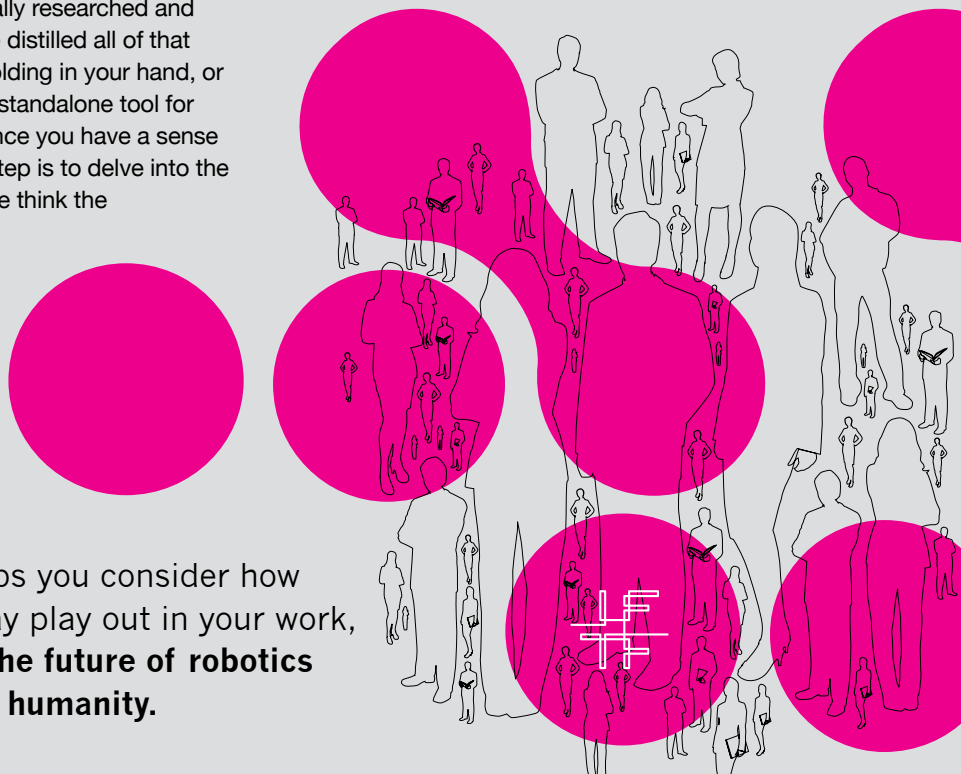
# ROBOTRENAISSANCE

the future of **human-machine** interaction

We make our technology, but our technology also makes us. Anytime we invent a new tool, a new machine, a new system, we have the opportunity to learn something about how we humans relate to one another, our world, and our technology. New machines not only make us see technology in a new light, but can also make us reconsider who we are. This is never more true than in the realm of robotics. The stuff of science fiction for more than a century, robots first emerged from laboratories in the 1950s. For the most part, the hype outpaced the reality of the technology save for few industrial and military applications. But now, a host of new robot species is rolling, toddling, and striding out of the research laboratories. In the next ten years, robots will enter virtually every domain of our lives, from hospitals to war zones, classrooms to bedrooms. These machines won't just take over our jobs, they'll change the nature of what we do, and how we do it. In some cases, robots may replace humans. But mostly, they'll augment and extend human capabilities, setting new standards for what is possible. And in the process, we will rethink what it means to be human in a world remade for machines. This is the Robot Renaissance.

For the last year, IFTF has systematically researched and synthesized this future of robotics. We distilled all of that information in the materials you are holding in your hand, or perhaps in your gripper. The map is a standalone tool for navigating the Robot Renaissance. Once you have a sense of the directions of change, the next step is to delve into the ten domain papers analyzing where we think the largest transformations are imminent and the impact will be greatest. In each domain, we consider how machines may help us understand ourselves, how they may extend human abilities, or how they may automate tasks that are currently human responsibilities, or entirely beyond our achievement.

We hope this research helps you consider how the Robot Renaissance may play out in your work, and in your life. After all, **the future of robotics is ultimately the future of humanity.**



# We also want to acknowledge the remarkable team who contributed to this project.

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“We are all robots when uncritically involved  
with our technologies.” —Marshall McLuhan

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