HUMAN +

Reimagining Work in the Age of AI

MACHINE

PAUL R. DAUGHERTY

H. JAMES WILSON

"*Human + Machine* is a richly detailed guidebook that leaders need to capture the opportunities of AI and the fourth industrial revolution. If we heed Daugherty and Wilson's call to action on reimagining how we work and preparing people for fusion skills, we can ensure a brighter future for all of us."

—KLAUS SCHWAB, founder and Executive Chairman, World Economic Forum; author, *The Fourth Industrial Revolution*

"In the post–Information Age, every sector of the global economy is driven by technology, the source of disruption and new wealth everywhere. For those wishing to participate, you'll need a copy of *Human + Machine*."

—MARK ANDERSON, founder and CEO, Strategic News Service

"In *Human + Machine*, Daugherty and Wilson brilliantly illuminate with real-world examples how companies across every industry are reconceptualizing their businesses and organizations for the age of AI. This is just the beginning of the greatest business transformation in history, with humans and machines working together in ways never before imaginable. As the authors point out, we must invest in training millions of people for the jobs of tomorrow and establish guardrails to ensure that as AI evolves, the benefits accrue to all of humanity. *Human + Machine* is a roadmap to the future—read it if you're serious about understanding the impact of AI and how it is driving growth."

—MARC BENIOFF, Chairman and CEO, Salesforce

"*Human + Machine* is a well-written and well-researched book that addresses the missing middle of AI: how humans and machines can collaborate so as to augment—not replace—human skills. From the manufacturing floor to the back office

to the individual, Paul and James offer wonderfully approachable and actionable insight into the changing nature of work."

—**GRADY BOOCH**, Chief Scientist for Software Engineering, IBM Research; IBM Fellow

"*Human + Machine* shines new light on our burning need to reinvent nearly everything about the way we work. Daugherty and Wilson have hands-on experience leading these changes, giving this book an exceptional level of credibility and insight. Have your whole team read it before your competitors do!"

—**ERIK BRYNJOLFSSON**, Director, MIT Initiative on the Digital Economy; coauthor, *The Second Machine Age* and *Machine, Platform, Crowd*

"A must-read for business managers who know AI should be a big part of their job but find the topic intimidating and confusing."

—**MISSY CUMMINGS**, professor, Pratt School of Engineering; Director, Humans and Autonomy Laboratory, Duke University

"We are in an era of digital Darwinism, where technologies are evolving faster than businesses can adapt. Daugherty and Wilson's approaches, the missing middle and MELDS, provide the formula to help you rethink your opportunities, your processes, and your outcomes—with the goal of capturing exponential improvements in record time."

—**CHETAN DUBE**, CEO, IPsoft

"In *Human + Machine*, Daugherty and Wilson give a blueprint for a future in which AI augments our humanity. Packed with

examples, instruction, and inspiration, the book is a practical guide to understanding AI—what it means in our lives and how we can make the most of it."

—**ARIANNA HUFFINGTON**, founder and CEO, Thrive Global

"Daugherty and Wilson answer the fundamental question, how do we help our workforce transition into the age of AI? Without question, *Human + Machine* is the handbook you need to move forward."

—**HENNING KAGERMANN**, President, acatech (German Academy of Science and Engineering); former Chairman and CEO, SAP

"The AI revolution has started, so don't fall behind. Read *Human + Machine* cover to cover—and gain the ability to use exponential intelligence and velocity to define and optimize your impact on the world over the coming decade."

—**DAVID KENNY**, Senior Vice President, IBM Watson and IBM Cloud

"*Human + Machine* creates the framework for forward-thinking leaders to develop opportunities within their operating system that optimize both human and machine intelligence; a deeply thought-provoking analysis of how to introduce AI to enhance internal operations and develop a technology-enabled, long-term growth strategy."
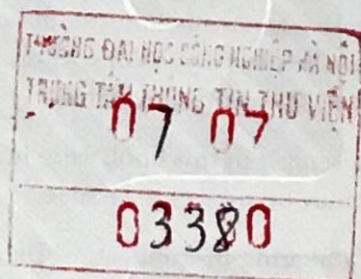
—**AARON LEVIE**, CEO, Box

"AI offers great promise to benefit people and society but also presents new challenges and risks. In *Human + Machine*, Daugherty and Wilson have published a crucial perspective on the future of work, illuminating the human-machine relationship

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Those who can imagine anything, can create the impossible.
—Alan Turing

See, the world is full of things more powerful than us. But if you know how to catch a ride, you can go places.
—Neal Stephenson, *Snow Crash*

What's Our Role in the Age of AI?

In one corner of the BMW assembly plant in Dingolfing, Germany, a worker and robot are collaborating to build a transmission. The worker prepares a gear casing, while a lightweight robot arm, sensitive to and aware of its surroundings, picks up a twelve-pound gear. The worker moves on to her next task, while the robot precisely puts the gear inside the casing and turns away to pick up another.

In another part of the plant, where LP's song "Lost on You" hums across the floor, a different lightweight robot arm evenly applies a thick black adhesive to the edge of small car windows. Between applications, a worker walks over to wipe off the glue nozzle, pop in new glass, and carry away the finished windows, as if robot and human are part of a well-choreographed dance.[1]

Thanks to recent advances in artificial intelligence (AI), we are now at the cusp of a major transformation in business. It's a new era in which the fundamental rules by which we run our