Future-proof Your Operations

combining the individual strengths of humans and robots

presented by Daniel Theobald
Next week delivery became 2-day delivery became same-day delivery...
“the Amazon effect”

customers want → more options → faster delivery → 24/7 service

• which means →
  • more SKUS
  • smaller orders
  • nonconveyables

  • higher throughput
  • faster cycle times
  • more locations

  • realtime updates
  • higher uptime
  • more shifts
Top challenges facing the Materials Handling industry with regards to automation:

1. Hype is good for startups raising money, but bad for everyone else.

2. Safety, Safety, Safety.

3. Public perception, fear.

4. Lack of interoperability.
today’s workflows

inflexible

changes to workflow or market demand require re-engineering and re-building
automating each process independently is common practice... but it’ll cost you
today’s workflows

static, rigid, manually engineered

1. BULK HANDLING
2. DEBULK
3. BUFFER
4. PICK
5. SORT
6. LOAD
what if automated workflows could adapt to ever-changing environments?
improved workflows embrace flexibility

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2x productivity and decreasing non-value-added travel by 80%
improved workflows

embrace machine learning

robots that learn and adapt *in realtime*
what happens when you try to remove the human factor altogether?

“Yes, excessive automation at Tesla was a mistake. To be precise, my mistake. Humans are underrated.”

- Elon Musk
improved workflows

embrace orchestration

orchestrate & optimize evolving mix of diverse robots and humans that execute workflow
a hybrid model for physical work

the human factor

\{ abstract reasoning, emotional intelligence, strategic creativity \} + \{ precision, efficiency, data collection \}

the robot factor

= an adaptable future
optimized workflows combine the individual strengths of humans and robots
one size does not fit all
embrace interoperability

when you have a wide range of robots

interoperability is key
one size does not fit all

embrace standards

working with a wide range of robots

MassRobotics

to establish standards of interoperability
5 key ways to future-proof your materials handling operations:

1. Flexible, adaptable fleets of a variety of autonomous equipment.
2. Crawl, Walk, Run.
3. Empower workers with information.
4. Orchestrate.
5. Interoperability.