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Disclaimer

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Automation of Sterile Services

What can be Automated and do we need to do it?

Image source: https://www.gm61.co.uk/post/automation-in-sterile-services

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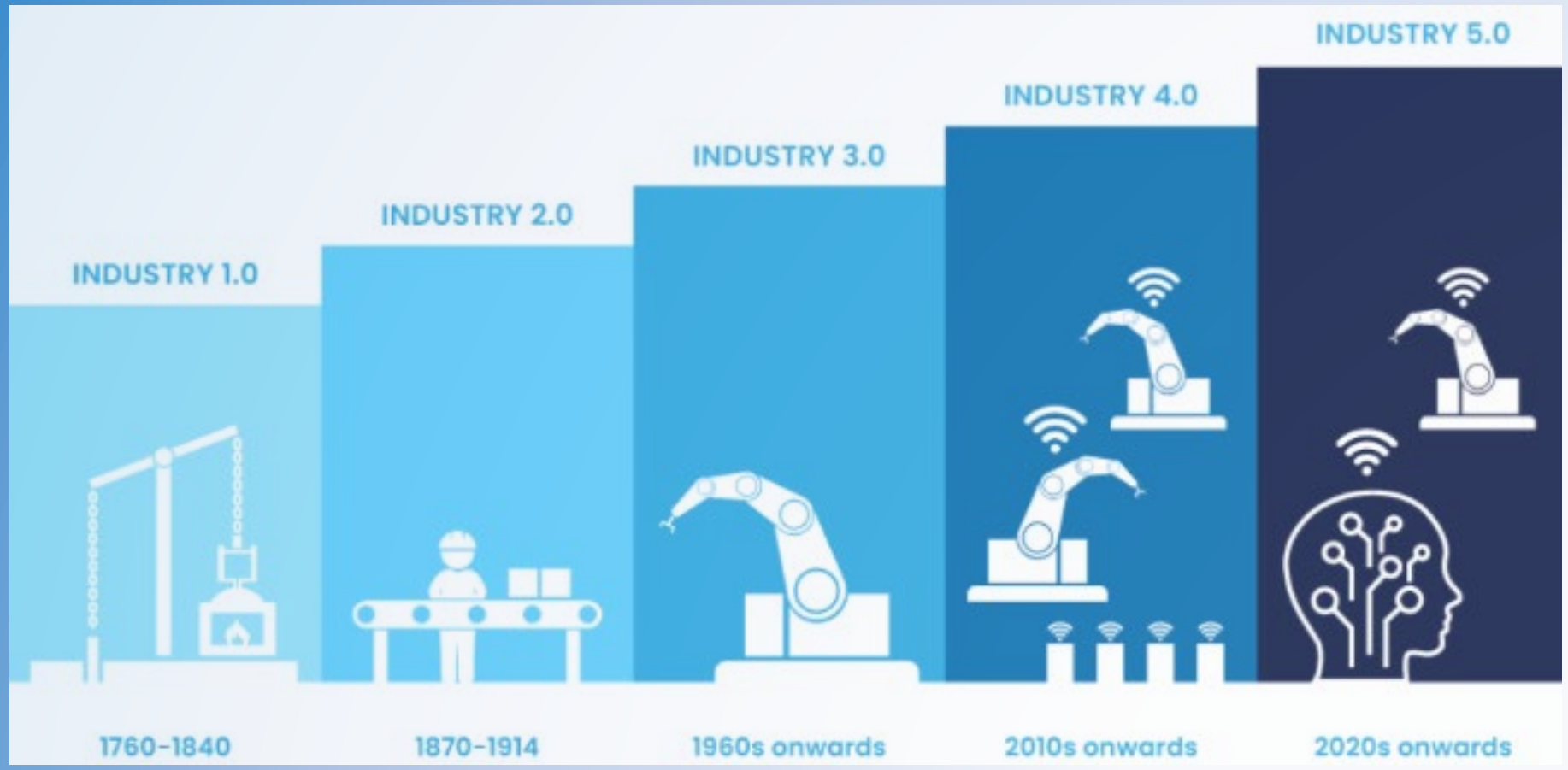

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Image source: https://optimod.net/blog/digital-era-trends/the-evolution-of-industry-from-first-to-fourth-industrial-revolution

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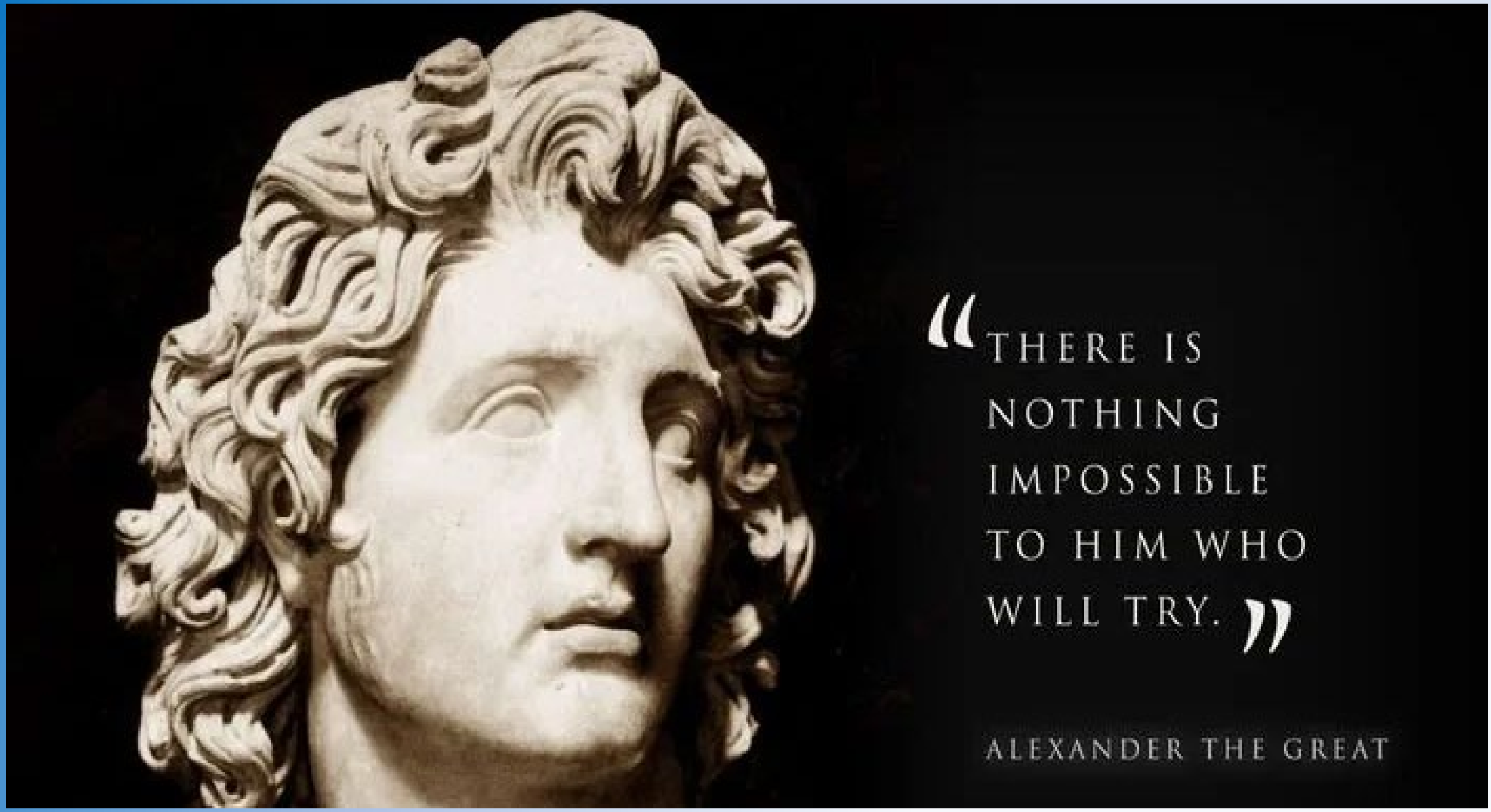

Image source: https://www.greecehighdefinition.com/blog/alexander-the-great-quotes

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History shows us that even the most revolutionary ideas don't last forever!

let's take a brief journey through some of the technologies that once defined their era; only to fade when something better emerged.

Image source: https://nerdist.com/article/russo-brothers-in-talks-to-direct-avengers-doomsday-and-secret-wars/

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DVDs

1997: Netflix begins as a DVD-by-mail service; DVDs dominate home video market through late 1990s–2000s.

2007: Netflix launches its streaming platform

2010s: Rapid public adoption of streaming; DVDs decline steeply as streaming becomes dominant

2020s: Major retailers reduce DVD sections; streaming fully mainstream and primary distribution model

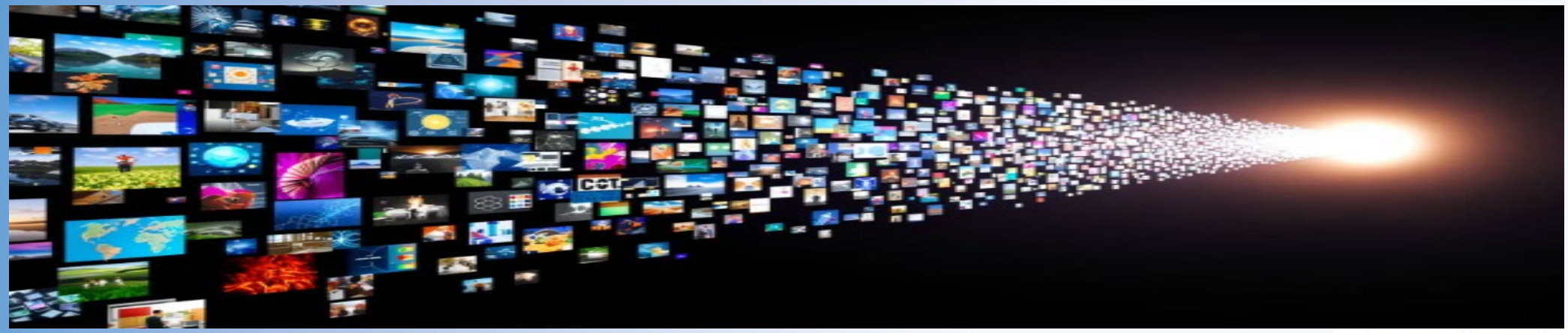

Image 1 source: https://www.nexttv.com/news/dvd-and-blu-ray-still-generating-dollar134-billion-in-annual-sales
Image 2 source: https://flussonic.com/blog/news/streaming-video

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BlackBerry

2002: First BlackBerry smartphones released, combining phone + email + internet

2007: Apple introduces the first iPhone, creating the modern touchscreen smartphone

2010–2013: iPhone and Android surpass BlackBerry in market share

2016: BlackBerry ends smartphone manufacturing

Image 1 source: https://www.u-buy.co.uk/product/2C5LBV0Y-blackberry-bold-9900
Image 2 source: https://www.moneysupermarket.com/mobile-phones/apple/

Healthcare Advances

Iron Lung

1927: The first iron lung was invented by Philip Drinker and Louis Shaw

1950s: Development of modern positive-pressure ventilators

1953: Use of iron lungs rapidly declines following the adoption of modern ventilators

Image 1 source: https://www.sciencemuseum.org.uk/objects-and-stories/medicine/iron-lung
Image 2 source: https://www.neuvar.co.uk/product/ventilator-machine-mslvm10/?gad_source=1

Decontamination Advances

Dry Heat Ovens

1881 – Robert Koch introduces dry-heat sterilisation

Early 20th century – Hospitals rapidly adopt steam sterilisation.

Mid-late 20th century - Steam sterilisation becomes essential; dry-heat ovens largely replaced in sterile services.

Image 1 source: https://www.medicalexpo.com/prod/medical-trading-srl/product-91091-1002231.html
Image 2 source: https://babichsteriliser.com.au/bmm-weston/

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So, what wash sinks?

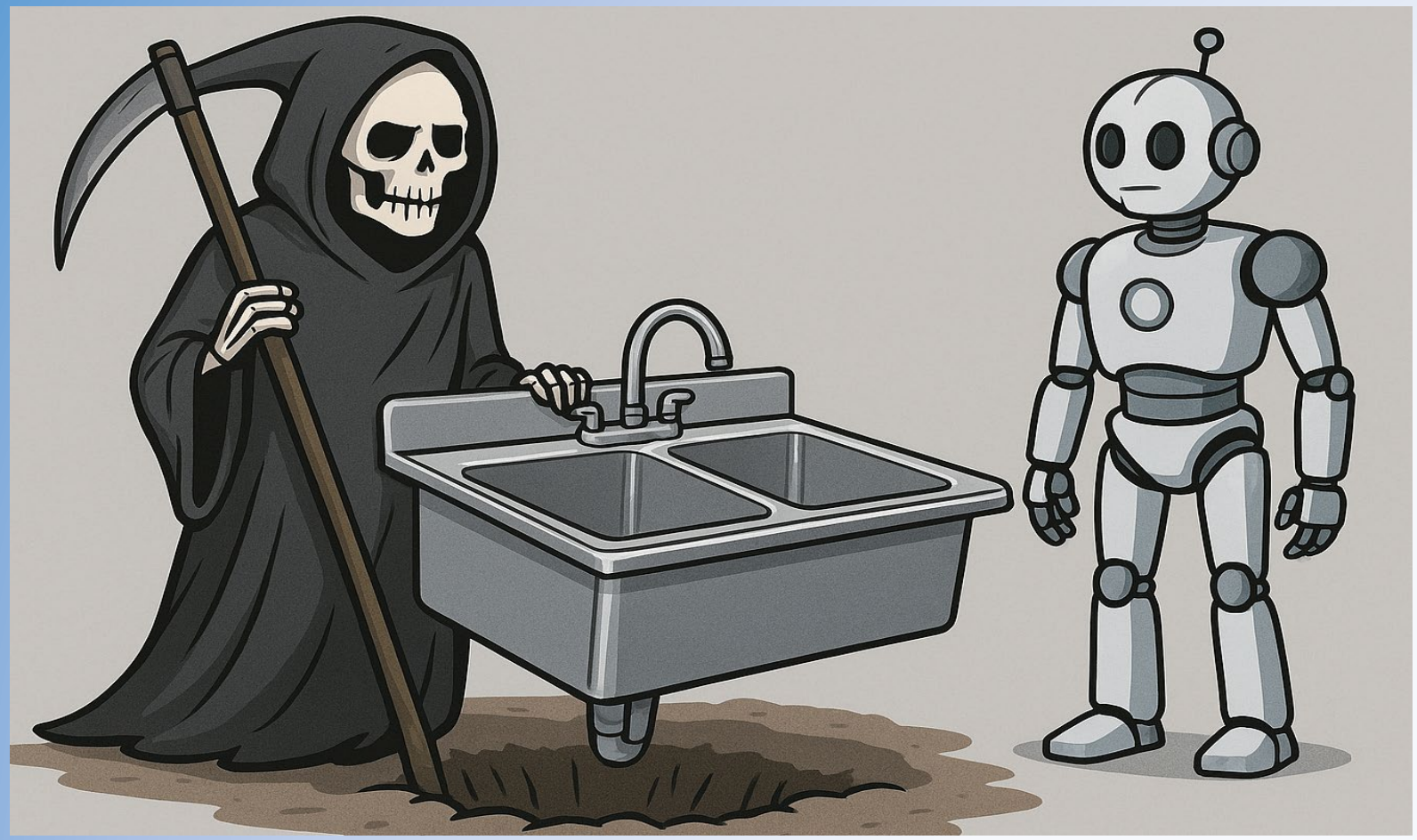

Image source: https://pure-processing.com/

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Infection control - Splashing and Aerosol of Contaminated Water

Persistent sources of biofilm

Donskey 2023:
Healthcare facility floors and sink drains and other wastewater drainage sites are universally contaminated with potential pathogens and it is plausible that organisms can be disseminated from these sites.

Donskey, C.J. (2023) Update on potential interventions to reduce the risk for transmission of health care-associated pathogens from floors and sinks. American Journal of Infection Control, 51, pp. A120–A125

Image source: https://www.notifytechnology.com/how-much-risk-is-in-your-organisation

Manual Handling - Sharps injury

Back pain

Repetitive strain

Image source: https://www.notifytechnology.com/how-much-risk-is-in-your-organisation

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Musculoskeletal Injury Rates in Sterile Services (Sink-Based Cleaning Tasks)

Sterile services staff, who perform manual cleaning at sinks, have MSD injury rates 20/1000 per year.

Far higher than the general healthcare average.

Sink tasks create ergonomic risk factors proven to cause musculoskeletal disorders, including repetitive motion, bending, reaching, heavy lifting, and prolonged awkward postures

Injuries to:
Back
Shoulders
Neck
Wrists
Hands

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Image 1 source: https://www.gm61.co.uk/post/automation-in-sterile-services
Image 2 source: https://www.steelcogroup.com/technology/r-appit/
Image 3 source: https://www.steris.com/healthcare/products/washing-and-decontamination-systems/washer-disinfectors/atlas-workflow-automation-vehicle?srsltid

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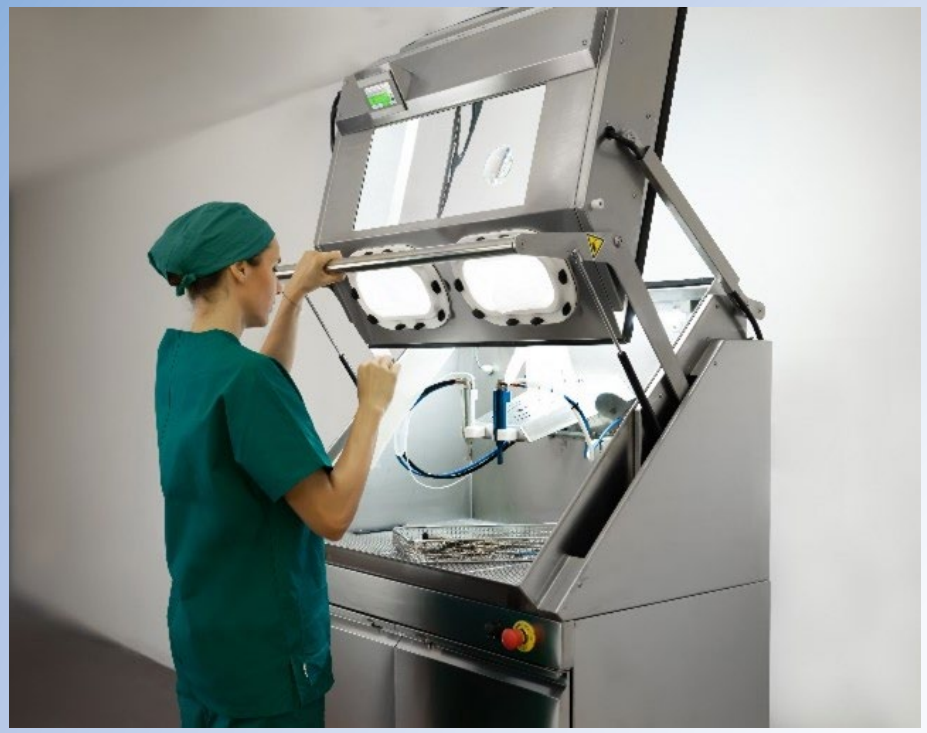

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Image 1 source: https://www.tinyair.co.uk/about
Image 2 source: https://www.decontaminationandsterilisation.co.uk/
Image 3 source: https://www.pfemedical.co.uk/khamisn-automated-endoscope-cleaning-system

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Potential Benefits

Reduction in chemicals

Technician time

Rewash reduction

Validation & Repeatability

Process time

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Conclusion

Eliminating manual sink-based pre-cleaning and adopting automated pre-cleaning systems will:

- **Reduce musculoskeletal injuries and associated costs**
- **Remove a major infection-control risk point (sink drains and splash zones)**
- **Standardise and validate pre-cleaning with high repeatability**
- **Shorten and streamline processing times**
- **Improve staff ergonomics, wellbeing, and retention**

Overall: automated pre-cleaning offers superior safety, efficiency, and compliance compared with manual sink-based workflows.

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Conclusion

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Any Questions