

Digital Medicines Manufacturing – Future of Work consultation webinar

Online
12th January 2023

Like many industries, pharmaceutical manufacturing is experiencing a transformation through the increased development and use of digital technologies, such as AI, robotics and virtual or augmented reality.

We often hear how new technological advancements will transform jobs in the manufacturing sector as a whole, but what does this mean for the future of work in pharmaceutical manufacturing both on an individual and collective level? Part of the challenge facing medicines manufacturers in the UK and beyond is understanding how today's jobs and skills will lend themselves to new opportunities created by the implementation of these new advanced technologies.

The pace of technological change raises many interesting questions for academics, policy makers and employers:

- How can the sector prepare people to work alongside new technologies, robots, and co-bots?
- What are the essential skills for future pharmaceutical manufacturing workplaces and how can we enable these through training and education?
- How can advanced technologies help generate and embed new ways of working by opening up career opportunities for otherwise hard-to-reach groups such as women, minorities, older workers and disabled people?

To help address these questions, CMAC's Digital Medicines Manufacturing team & the InterAct team at Strathclyde University co-hosted an online session, Thursday 12th January, for those interested in sharing their views on these issues.

Attendees representing pharmaceutical manufacturers, technology providers and academia joined the discussion. Here we summarise the questions posed to the attendees and their responses:

Q1. What is your vision of “the future we want”?

- A greater focus on people and skills. Increased engagement with people from various backgrounds to highlight the diversity of jobs, opportunities and people working in manufacturing. Dispel perception that manufacturing is still a manual, dirty job and only suitable for a narrow section of society.
- Augmented workforces, where humans work alongside machines, incl. robotics to a greater extent.
- Where machinery does not replace human workers but work seamlessly with them in order to minimise risk and repetitiveness for the human, allowing them to concentrate on higher/creative thought processes.

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- Industrial digital technologies (IDTs) enable faster routes to market for pharmaceuticals e.g. activities can be automated and the use of data allows prediction and/or models to cut experimentation time.
- IDTs allow more flexibility and less need to be in the office.
- IDTs will advance the ‘fail fast’ approach to learn from mistakes and failed experimentation to build robust data and knowledge that can support creation of reliable AI prediction models, etc to support faster route to market processes.
- IDTs will support the increased sharing of data. Working practices, greater integration of hardware & software and standardisation across sectors and industries will make more information freely available to support innovation.
- A greater trust in data through IDT development and adoption, skills development and engagement activities.
- Thoughtful data capture and storage – capturing the necessary data and storing it in accessible formats to maximise relevance and value. A move away from current practices that tend to capture and store every piece of data that can be unhelpful and unsustainable.

Q2. What are your fears for manufacturing work in the future?

- Not attracting people with the skills needed into the sector.
- Difficulty engaging people with digital skills. How to highlight the sector has interesting challenges they can solve and make it an attractive proposition versus other sectors?
- Education remaining ‘old-fashioned’ and not updating fast enough to provide teaching in most up-to-date practices that impart skills needed for modern industrial settings and showcases the new reality of manufacturing.
- Lack of investment and support to develop the skills of current workforce due to ongoing pressures, e.g. economic downturns, and therefore losing out on the value those workers can bring to a business
- Loss of talent to other sectors due to not recognising changing motivations for workers and losing the appeal to attract and/or retain them, e.g. not aligning to a sense of purpose, not showcasing the satisfaction from activities and impact of outcomes, etc.
- Over automation. Current trend is to automate whole systems when only certain parts require it. Can have negative knock-on effects such as job dissatisfaction and/or fear of loss of jobs or over investment by company putting financial pressures and long term sustainability of the business at risk.
- That too much emphasis is put on certain areas by Governments and other key institutions today, that make investments in manufacturing unattractive in the future. For example, skills and people are only one part of the picture when a company is looking to set up operations, unfavourable geopolitical landscapes can affect competition with other nations

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Q3. To bring about “the future we want” what do we need to act on now?

- Increase skills, understanding and confidence in IDTs to build trust in them and maximise adoption of such enabling technologies and solutions by industry / regulators / society.
- Apply effective engagement strategies to increase transparency, inclusion and trust in IDTs that allay fears that may limit adaption of technologies and in turn advancement in the field.