

Co-Creation & Trust to Address Regulatory, Ethical and Interaction Challenges of HRI Adoption

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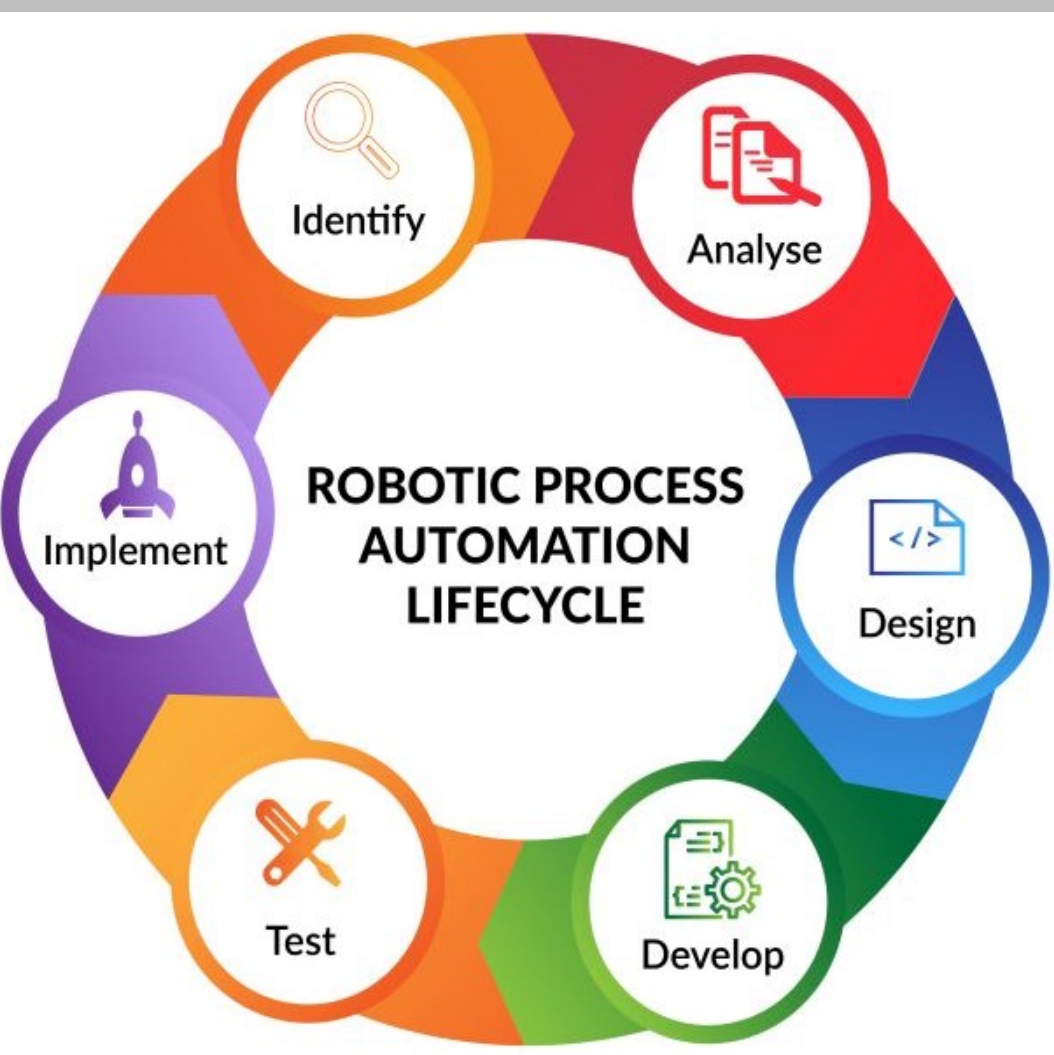
Introduction

The adoption of HRI robots within all industries including agriculture is being halted due to hesitation from end-users and stakeholders. This leaves an opportunity to better understand these needs with the aim of addressing these issues within the design of these robots to make the transition into industry smoother.

Barriers of Adoption

To get a better understanding of the barriers to adoption within industry over the next couple of months 8 workshops will be run with 8 companies, half from the agricultural sector and the other half from the automotive sector. These findings will identify similarities and differences between the sectors and a conclusion will be drawn on whether there is a way to address both sectors. A discussion is also going to be held in regards to trust and what part it plays with the adoption of HRI robot.

Summary



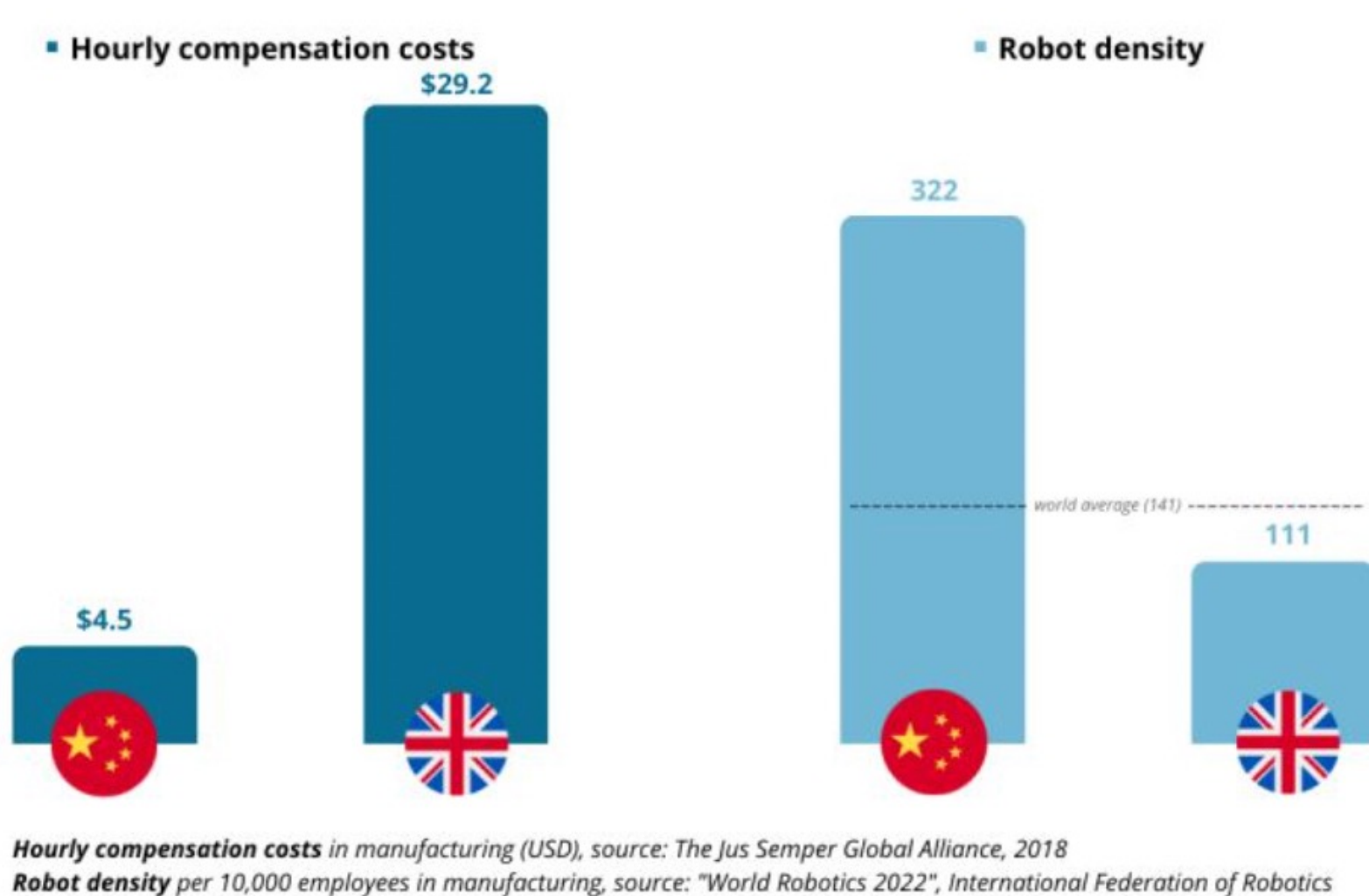
This project involves constant interaction with stakeholders/ end-users in an attempt to better understand the hesitation of the adoption of HRI robots within industry. Workshops, questionnaires & interviews will be held with companies to determine the reasons for this hesitation

Successful Vs Unsuccessful Previous Adoption

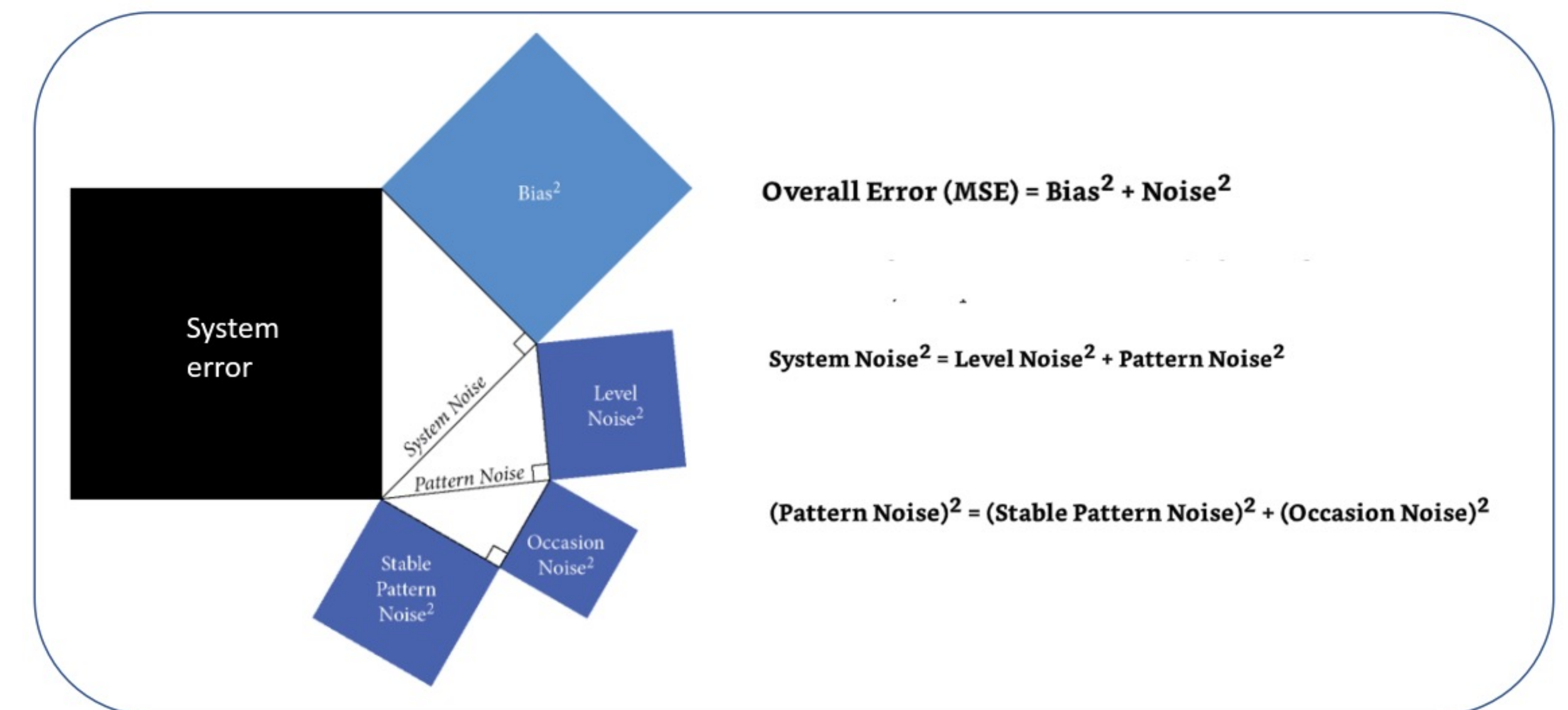
Once the workshops have been completed further analysis will be conducted through the use of questionnaires and interviews focusing on how previous successful or unsuccessful attempts of adoption have affected the stakeholders/end-users' decision to automate further, it will be determined whether this previous attempt has created system noise [2] within the company and through the completion of this comparative study all discovered factors will be identified and reported back to the companies.

Learning from Others

UK vs China: Manufacturing labor costs and robot density



In recent years it can be seen that simply reducing labour costs is not enough to affect the acceptance and adoption of these robots within industry and therefore more must be done to better understand what is as deemed successful adoption. If we can learn from other countries as well as other sectors to better understand the reasons for resistance to these robots with the goal of improving the acceptance of these robots within the agricultural sectors we can shorten the time it takes to integrate.



Industry

Further utilisation of other sectors' success of HRI adoption will be used in the form of a comparative user study between the agricultural and automotive sectors. As of 2012 in the automotive industry, there were approximately 1,091 robots per 10,000 workers compared to the average of all other industries was 76 robots per 10,000 workers [1]. If the success of HRI adoption within the automotive industry can be broken down/ understood and transferred to the agricultural sector it could improve the time it takes to get robots deployed.

Conclusions and Future Work

Currently, the background research and literature review have been completed and the process is underway to identify companies to participate in the user stay with the help of MTC. A pilot workshop is being held at the end of September with the aim of starting the workshops at the beginning of October.

Further work included determining ways in which to validate the findings from the user study in a way that is both beneficial for the agricultural sector as well as the companies who will have participated in the user study.

Sub-Heading/References

- [1] Furman, J., & Seamans, R. (2019). Ai and the economy. Innovation policy and the economy, 19 (1), 161–191.
[2] Kahneman, D., Sibony, O., Fusaro, R., & Sperling-Magro, J. (2021). Sounding the alarm on system noise. The McKinsey Quarterly

Sub-Heading/Collaborators

- MTC
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