its area on bricks in the layer below. This is essential for the adhesion of the current brick to the bricks below to guarantee stability.

Wall assembly and transportation of prefabricated walls are issues, which are currently performed manually. Improvements remain, at this stage, open issues.

5 Conclusion & future work

Within this paper we have shown our recent work-in-progress in terms of testing, for the brick masonry process adapted parallel-kinematic machine, to Technology Readiness Level 3 – 4. Since we have validated our predefined assumptions through dry stacking of bricks as well as through stacking bricks with mortar our investigations are highlighting the potential of parallel-kinematic manipulator's use in construction robotics. This lays the foundation for former explorations including enhancement of future process performance and parallel-kinematic behaviour.

Future work contains implementation of improvement opportunities into the current setup. This includes content, discussed in 4.5 and will mainly focus on further sensory integration for brick handling (pick, place, move) as well as enhancements of mortar application tool-design and mortar application strategies. Furthermore, we will focus on digital chain improvement to generate executable G-code directly out of the used CAD environment. Moreover, we will implement safety and interaction issues for enabling the PKM to be used for prefabrication processes close to construction site with the aim to bring the PKM up to a higher Technology Readiness Level. Our idea to use the PKM on the construction site itself, is to mount the arm system on site onto specific, application oriented support structures.

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