

Capacity Area A3 Topic 1.2 Milestone 1**Manufacturing infrastructure for direct consolidation via hybrid yarn route**

CMAS Lab has acquired a customized glass monofilament spinning machine (Fig. 1) from Woltz Glasfasertechnologie GmbH, which was commissioned in Zurich during March 2018. It was financed in part by an equipment grant from ETH Zurich and by the chair's own resources. Since the commissioning, the spinning of e-glass monofilaments has been fully characterized. The setup also includes a coating unit with which hybrid bicomponent fibers can be manufactured. This process is currently under investigation and it is expected that a set of process parameters resulting in a robust manufacturing of such hybrid monofilaments will be identified at the end of 2018.



Fig. 1: Glass monofilament spinning machine by Woltz Glasfasertechnologie GmbH including the coating stage and fume extraction unit specific to CMASLab's bicomponent fiber production method.

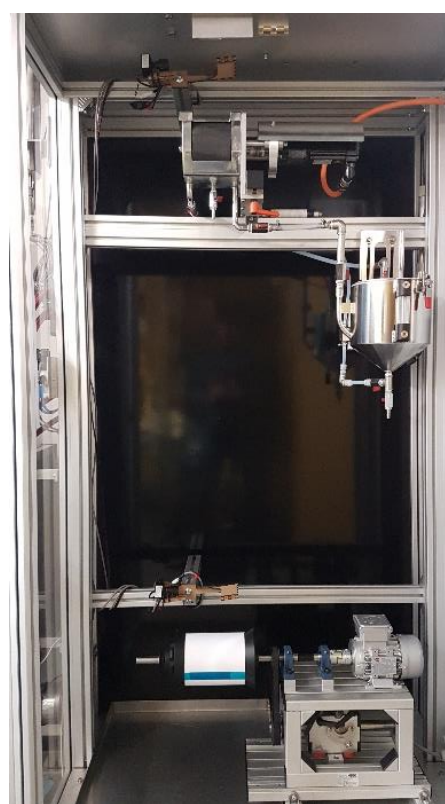


Fig. 2: Main chamber of the machine showing the entire coating unit on top and the take-up winder on the bottom.