

CASE STUDY

Working towards prototype commercialisation via BRISK Transnational Access



Andreas Gredinger of the University of Stuttgart discusses how BRISK Transnational Access to CIUDEN in Spain allowed IFK to continue to develop their prototype analyser

More than a decade ago, a first prototype for semi-continuous online measuring of tars from biomass gasification was developed at my organisation, the Institute of Combustion and Power Plant Technology (IFK) at the University of Stuttgart. Completion of this prototype and development to a fully commercial product stalled several times in the following years because of a lack of funding sources and a lack of opportunities to test and validate the prototype itself in a realistic plant environment. At this time, IFK had only small electrically heated gasifiers that were not designed for tests and validation sustained over a few days, which slowed development progress.

From 2011 to 2014, we were able to complete the last step in the development of the prototype device. Even so, after the creation of the new design, the device construction, and basic laboratory tests in preparation for initial commissioning, we still did not have the capacity to validate the analyser in long-time runs with a standard gasifier in order to identify any problems or to prove its general reliability and comparability with the standard method. However, after a visit to the EUBC&E Conference in Copenhagen 2013, I became aware that BRISK Transnational Access could offer a solution to our problem. We therefore decided to apply to work at CIUDEN in Ponferrada, Spain, to enable us to access the 3MWth air blown atmospheric bubbling fluidised bed gasifier. After a talk with Miguel Angel Delgado, and after a few phone calls and e-mails, the planned test programme was set and the application form completed, with approval received within days. Once the visit had begun, we were able to test the analyser with real producer gas from wood gasification over a timeframe of two weeks at different gasification temperatures and therefore also with different tar



Figure 1: Analyzing tars with IFK's online device at CIUDEN's gasifier.



Figure 2: Checking data gained via experiments.

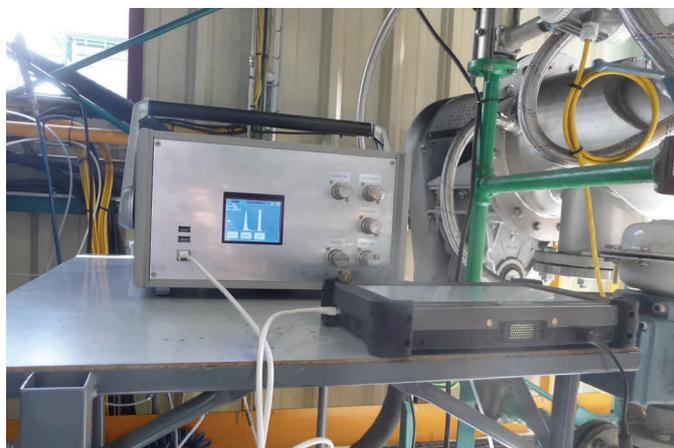


Figure 3: The front panel of IFK's analyser prototype.

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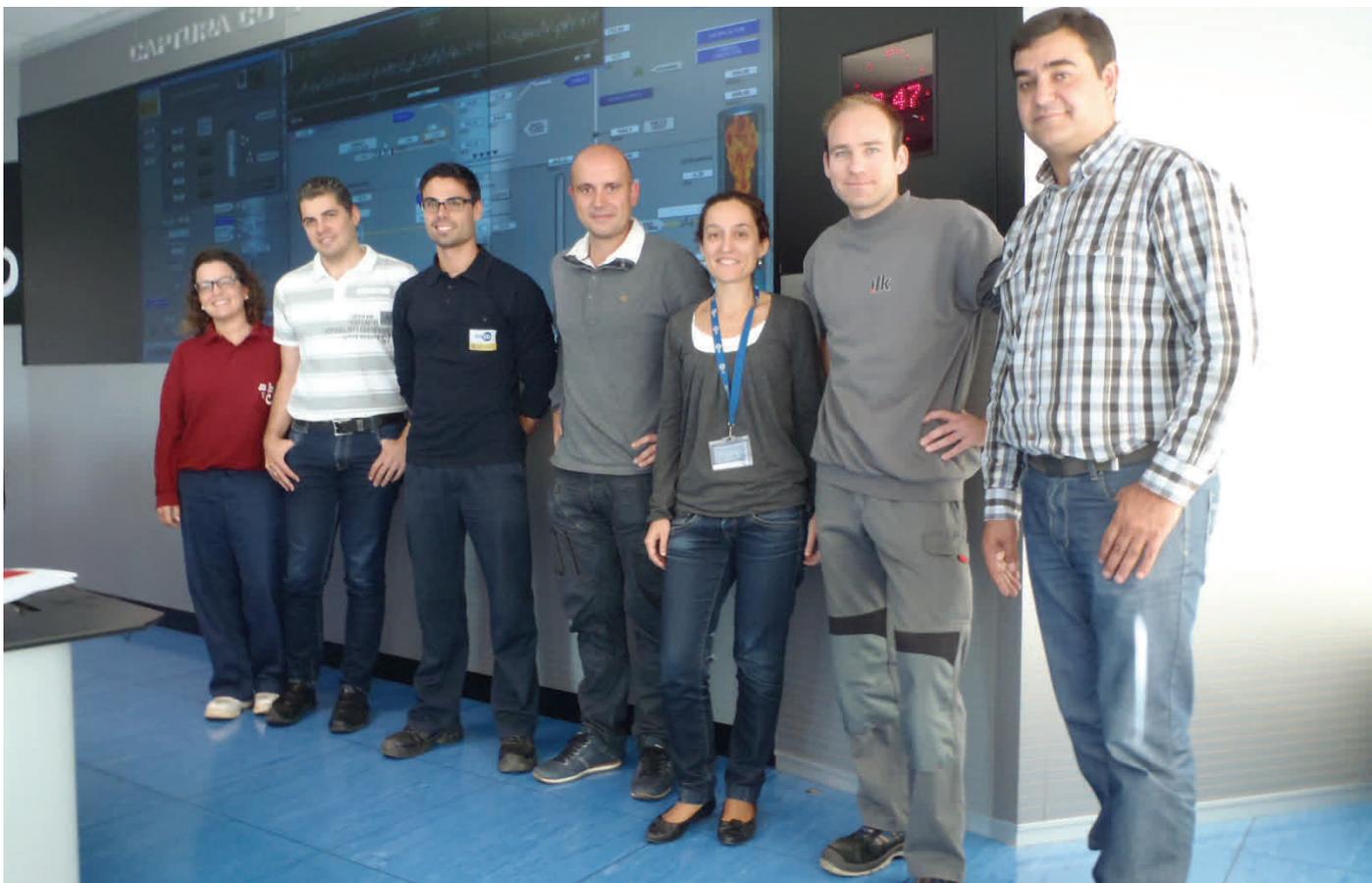


Figure 4: Andreas Gredinger (2nd from right) with the day shift of the CIUDEN team.

concentrations. These tests helped us to validate the analyser measurement principle which we would work on in the months after the visit to get the analyser to its last step before commercialisation. A huge benefit during our stay was the fact that we could focus completely on the analyser's behaviour and that the CIUDEN team was running the gasifier "for us". Also, the opportunity to interact so intensively with a different research team was a huge benefit of our stay and will help us with future work.

The atmosphere both during the application phase and while at the site in Ponferrada was always pleasant and the CIUDEN team were very welcoming. Project manager Miguel Angel Delgado and his whole team were always helpful during the visit and made our stay

comfortable and valuable. The application process was completed very quickly and without unnecessary administrative burden. I can only summarise the visit to CIUDEN as very helpful for our work in general and for the further development of our analyser, and I am thankful for the opportunity. I hope for a renewal of the programme to allow other researchers the same personal and scientific experiences.



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