Let’s share our ambitions

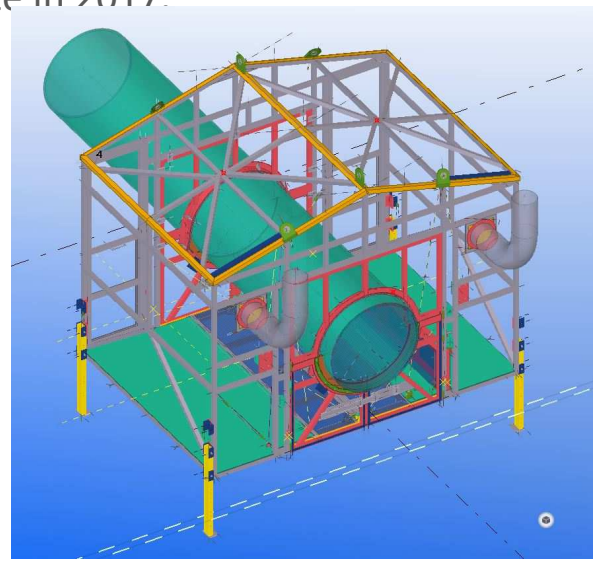
ISAC: Installation de Sablage à Aspiration Contrôlée *or* Vacuum Sandblasting Controlled System

FIRST STEPS

Always focused on innovation, SPAC wanted its sandblasters to work in a healthier and safer environment and to have a better visibility during sandblasting operations, space around pipes being very confined. Furthermore, the existing sandblasting system had an impact on the natural environment due to the sand and dust not wholly collected. On-site operators and management asked for a system which can work, improving those aspects.

Faced with such a situation, SPAC decided to develop a system more comfortable and healthier for sandblasters and for those who carry the big bags of sand ; a system which would also be more environmentally friendly. Automatic sandblasting could have been a good solution, but such a system is not totally successful, in particular to cover all joint length, and we would not have been ready to begin working on the Val-de-Saône (VDS) site in 2017.

So we went ahead with the cabin design, keeping the possible future incorporation of an automatic system in mind. A French Engineering school proposes an « Eleven-week Project »: During eleven weeks, a group of students works on a company topic, with the help of their school and professor. Several concepts of a new cabin system were developed for SPAC by the students. One of those students even stayed at SPAC for an additional six-month internship, to continue his mission, i.e. to focus on designing the new system.



SOLUTIONS

SPAC launched this innovation bearing in mind the operator's health first. It aimed at providing comfort, developing a closed cabin and then managing the dust production and its removal. The new system, ISAC (Installation de Sablage à Aspiration Contrôlée *or* Vacuum Sandblasting Controlled System), consists in a vacuum cartridge filter system set up on the track carrier which is lifting the sandblasting cabin. Vacuum hoses are set up along the crane arm between the cabin and the Vacuum system. We were inspired by industrial sandblasting systems used in automobile plants. The vacuum system provided by CAMFIL is used for those industrial processes, we chose it for his reason.
This system is respectful of French and work legacy. We also worked with a Prevention and Safety organisation to help us in designing it.

ISAC provides solutions to our raised health&safety issues, with:

- **A closed floor during sandblasting operations. The operator can now work more comfortably, in any climatic conditions.**
- **A better visibility for the operator.**
- **An easier unloading operation process for the men in charge of collecting sandblasting dust, thanks to the drawer set up on the vacuum system.**

Plus a more positive impact on the environment, as all dust and sand are collected.

IMPLEMENTATION

Early in the thinking process, operators have been involved in the cabin manufacturing, as well as in its size or design. This picture below shows one of the tests done before the final manufacturing. Those tests were opportunities to try different kinds of sands that we could use to optimize the system's (cabin + vacuum system) efficiency for operator safety.
Managed by SPAC's Equipment Direction, the design and production of ISAC involved several SPAC services: Onsite teams, HSE team, in-house workshop and engineers, all committed to develop a device to improve health and safety conditions.

The resulting prototype totally was achieved and made possible thanks to our onsite people experience, in accordance with our HSE team.
In May 2017, ISAC was successfully tested on Val-de-Saône (VDS), a major French pipeline project. After a few minor modifications provided by the field operators, the system is now working effectively every day on the RGM (Renforcement Gascogne Midi) site, regardless the weather conditions.
A video was made to share this achievement with the rest of our company:
https://www.youtube.com/watch?v=Fpi8q30oWtY

NEXT STEPS

SPAC's innovation ISAC is now totally efficient for main line operations. The next step is for SPAC to duplicate and adapt this system for tie-in operations. It involves dimensions review and probably needs another work session with onsite operators.

ISAC was tested on 36'' and 48'' pipes. We now have to work on smaller diameters and to manufacture a new floor closing, because the height between the pipe and the ground will be narrower.

After the end of RGM (Renforcement Gascogne Midi) works, we will get back to our workshop to work and share site experience in order to develop those two aspects.

Régis, sandblasting team leader: "*ISAC works very well. The operator has much less dust in the cabin, much less sand on the floor, and a better visibility for a more perfect sandblasting*".