

AUTOMATIC FUEL FILLING IN THE URBAN TRANSPORT NETWORKS

Since the 90's, the autonomous fuel filling robots have made their appearance, urged by the operators of urban transport networks in search of productivity, and have made possible to thanks for the recent robotics technologies developments. Beyond preconception related to the replacement of man by machine, it seemed to be important to us to demystify the question, by collecting the remarks of the operations manager who has been a precursor since 1989, and who is nowadays objective enough to testify. The STAB, which manages urban transport of Bayonne-Anglet-Biarritz area, is a network with approximately 80 vehicles. It has been equipped, since 1990, with an automatic filling track.

Effects on employments

The staff costs constitute the first budget of the urban transport firms (65 to 70% of the operating costs).

The potential productivity on the subject is confined to services other than the bus crews (engineering departments, administration, etc).

The economy in term of jobs for STAB represents 1,5 employment per annum for example

The charge of pump assistant making vacant enabled the gradual transfer of staff to other posts including technical upgrade of the interest parties. Indeed, it is in the companies' interests to rather propose employments with prospect than unhealthy "cupboard" employments without interest and considered as punishments.

Easy exploitation availability

The main advantage of the automation of fuel filling lies in the easy exploitation availability. Indeed, the urban buses have to be filled several times a day, as they have to be as interchangeable as possible. They must be in a position to make all day long or short services. This interchangeability (relative because only between models of equivalent buses: standard, articulated buses, etc) extremely makes the planning of the shop work easier, but does require that the buses have their tanks filled every morning.

To attain this object, the operator has only one piece of instructions to give without being concerned with the presence or absence of the pump assistant, thanks to automation. However, there are many comings and goings of buses during the day, some rush hour services or "special" services being likely to return early in the afternoon or on the contrary late in the evening. The systematic transition to robotized fill-up avoids forgetting or returns previously inherent in the presence or absence of the pump assistant.

Some networks could assert that the most economic pump assistant is the bus driver himself. But the experiment shows that it is about a commercial staff for which it is not very desirable even impossible to carry out tasks of different nature.

Anyway, what could we say in this respect about public holidays or Sundays during which the operator may have to cut the staff on duty to its simplest expression?!

Control of management

The automatic recognition of the vehicles involves an allocation of consumed fuel quantity to each vehicle and enables a follow-up more reliable than with the manual pump assistant with which the statistics are frequently filled with manual mistakes. The reliability and the automation of the statistics fuel bus per bus are also a traditional means to start some preventive operations of maintenance according to the consumed quantity and to identify the technical malfunctions of some vehicles (overconsumption). Finally, the electronic recognition of the vehicles eliminates the "waste" of gas oil and makes more difficult – even impossible- the fuel stealing attempts. In any case, it makes afterwards the stealing detectable because the manual gas oil taking can be connected up to the printer.

Savings in investments

The automation of fuel filling enables to increase the organization possibilities . For example, it is possible to assign some buses to fill up mornings when they start and others to fill up in the evenings when they come back, which can go as far as to divide the "queues" of vehicles when they come back in the evenings in two. This freedom of dividing up the filling, independently of the "limited" hours of the pump assistant presence, permits the big networks to decrease the number of distribution posts compared to the manual solution. This decrease can amount to about 30 to 40% for the big networks: ten manual posts being then replaced with 6 automated posts, which represents considerable savings in investment.

Conclusion

The opportunities for an urban operator to get rid of some expensive chores are rare. A lot of illusions on the matter did not resist to realities, it is in particular the case in cleaning. On the contrary, the automation of fuel filling is a perfectly validated operation which functions in a reliable way and is well experienced by the bus crews. It adds unequalled easy exploitation availability to an undeniable improvement of the productivity. It is the opportunity not to miss during a period of search for savings. Moreover, it must be added that the investment by automatic fuel filling post does not constitute an obstacle considering the return on investment mentioned above. The equipment with automated filling will always remain a small part of main investment, which is the renewal of the rolling stock, for the networks, and especially when we know that, according to the models, the purchase of a new bus represents an investment between 150 and 300 K€.

For more information
sales@robosoft.fr

