



Call for Papers

*Special Issue of the International Journal of Intelligent
Automation and Soft Computing (AutoSoft)*

<http://www.wacong.org/autosoft/auto/>

Recent advances and future trends in vertical transport

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Overview

The progressive price increase in the urban centres and business areas of the larger cities makes necessary the intensive exploitation of land by means of the construction of high buildings. Today the installation of synchronized elevator groups in such professional use buildings is a usual practice.

The management of complex groups of lifts giving service to a huge amount of passengers travelling to a great variety of floors, and sometimes sharing different buildings, requires the consideration of complex algorithms to be installed in the controllers of the lift group.

Furthermore the multiple criteria to be considered make the problem particularly difficult. Traditionally, the main objective has been the minimisation of the system waiting time in order to increase the users' quality. This system waiting time includes the waiting time for the lift in the hall plus the trip time inside the lift. Also, in order to attain an efficient system performance is necessary to bind the maximum waiting times or the queue sizes of persons waiting for the lift. Recently, other significant criteria are gaining interest. It is the system energetic consumption. Here, a new challenge comes to the fore: the construction of lift groups designed to be more energy efficient. I believe this is an aspect which is of growing importance in an increasingly environmentally aware society. A more rationale consumption will lead to the reduction of the costs of the electronic devices, as well as the reduction of the energetic invoice at the same time.

Also, a relevant area of interest is to take on board the research already undertaken and incorporate ambient intelligence in the vertical transport system. This ambient intelligence will lead to greater user-friendliness; more efficient services support, user-empowerment, and support for human interactions. The construction of a real ambient intelligence will need of ubiquitous computing, ubiquitous communication and intelligent user interfaces, such as embedded algorithms for traffic pattern recognition or devices for vision or pattern recognition for lift group control and monitoring among others.

Topics:

Relevant topics for the special issue would include, but would not be limited to, the following:

- Application of soft computing techniques to optimisation and/or simulation in vertical transport
- Process and system control in vertical transport
- Decision support for vertical transport systems
- Distributed Artificial Intelligence
- Traffic pattern recognition
- Vision or pattern recognition for lift group control and monitoring
- Human-machine interfaces
- Ubiquitous computing
- Ubiquitous communication
- Embedded systems

Important Dates (author deadlines in boldface):

Call for papers: January 2008

Deadline for expression of interest: 20 **April 2008**

Notification of intent to proceed: 15 May 2007

Deadline for paper submission: 10 **July 2008**

Notification of acceptance: 5 October 2008

Final manuscript due: **5 December 2008**

Publication of special issue: 2009

Instructions for Submission of Papers:

The journal will consider two types of papers: articles and short papers. Articles will be full-length papers (over 8 pages in length) reporting original contributions or significant results. Short papers (between 5-8 typeset pages in length) present new ideas, preliminary and brief results. Papers emphasizing applications are especially welcome.

Electronic submissions in Microsoft Word and/or PDF format are strongly encouraged via e-mail to pca@esi.us.es; however, manuscripts in hardcopy form (4 copies) will be accepted at the address of the guest editor.

Guest Editor:

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