



# ELA

# NEWS



QUARTERLY OF THE EUROPEAN LIFT ASSOCIATION

## CONTENTS

- Editorial, by Michel Chartron ..... 1
- E4 Energy Efficiency of Elevators and Escalators is on track ..... 2
  - Energy: the Swiss study ..... 3
- General Assembly in Madrid ..... 4
- Conference in Madrid: Accessibility, key issue for the coming decades ..... 5
- EN81-58: Good news from the United Kingdom ..... 6
- VDI 4707, a Guideline produced in Germany ..... 7
- In Brief
  - ELA AWARD 2008 goes to France.. 7
  - Wikipedia ..... 8
  - Welcome Luxemburg ..... 8
  - New chairman C&TSC, new member of the ELA Board ..... 8
  - Statistics available ..... 8

## EDITORIAL

# Interest is rising for Energy Efficiency in lifts

By Michel Chartron, President of ELA

Across Europe, energy efficiency of buildings has become a “must”, with architects, planners and builders proposing more and more “passive” and low energy buildings, with a much lower consumption

time, has made it that it has become a main priority for the construction sector.

The European EPB directive (Energy Performance of Buildings – directive 2002/91/EC), which is presently under revision, advises national governments and public authorities to organize a certification process and revision thereof, to encourage good energy management. It includes building renovations of course and the introduction of new and alternative energy systems and solutions.



The European Lift Association is contributing to the effort by participating in the E4 project sponsored by the European Commission (Energy Efficiency of Elevators & Escalators). Our Energy & Ecology Work Group, under the chairmanship of Urs Lindegger, is following this work and analyzes the other initiatives taken in the world of lifts and elevators, to promote energy efficiency, such as the work carried out in ISO (ISO/DIS25745-1) or in the German VDI (VDI 4707).

of energy for all functions such as heating, air-conditioning, lighting or other services of all kinds. It goes as far as proposing “energy-positive” buildings producing more energy than they consume! The trend is clear in all types of constructions, from the individual house to the residential complex, from the industrial hall to the administrative building. The soaring cost of energy is the prime reason for this rapid evolution. Moreover, the increased consciousness brought by the debate on Climate Change and the perception that fossil fuels are limited in

ELA considers the work carried out in ISO TC178 WG10 as the priority. The resulting standard will be automatically taken over by CEN when the work is completed, in the frame of the “Vienna Agreement” between the two normalization organizations: CEN and ISO. Work Group 10 has worked on energy efficiency for some years and has published ISO/DIS25745-1 for comment. This standard specifies the measurement of the energy consumed by a lift when making a reference cycle. The second step for the Work Group is to produce a proposal for



**Michel Chartron**  
President of ELA



a classification system. Opinions on the subject are not unanimous, but progress is being made.

We also need to clarify our position about the Energy Using Products directive (EuP), which does not cover lifts, but that could cover some of the lift components. Finally, ELA wishes to get closer to the efforts made by the Construction industry, represented by the European association FIEC, since lifts and escalators are integral parts of buildings. The lift(s) need(s) to be taken into consideration in the global energy consumption of the

building. The Energy Performance of Buildings directive (EPB) is the right reference for us. ELA will see to it that energy efficiency of lifts is well understood by all our member associations and their member companies, so that the lift industry globally improves the energy efficiency of its products, just like all other building service providers.



# E4 Energy Efficiency of Elevators and Escalators is on track

*By Urs Lindegger, Chairman Energy & Ecology WG*



**Roman Bettschen testing a lift in Switzerland**

Lifts consume very little energy, if you compare it with other building services, such as heating and air-conditioning, or lighting for example. Still, the study made in Switzerland (see other article) clearly indicates that there is a potential for reducing the energy consumption of all types of lifts, and for improving the energy efficiency of lifts and their major components. Standby consumption can certainly be reduced in most instances and rapid reaction sleep mode can be installed to significantly reduce the electricity consumption of lifts and escalators. New generation of energy-consuming components can also be developed, which will consume much less than the present ones, etc...

Moreover, we see that even if lifts typically represent 3 to 5% of the electricity consumption of buildings, the mere fact that the other services are working hard at becoming more energy-efficient, will

**Urs Lindegger, Chairman of the Energy & Ecology Work Group**





increase the relative importance of the consumption of lifts over the coming years. The lift industry needed to act. At the same time the European Commission and some academic specialists were thinking about the same issue. We therefore partnered with two Energy agencies (KAPE in Poland and ENEA in Italy), with the well-known consultant Fraunhofer in Germany and with the University of Coimbra in Portugal, to launch an initiative called Energy Efficiency of Elevators & Escalators (E4). The European Commission (DG TREN – Transport and Energy) decided to sponsor it and support our initiative financially. The goal of our study, which will last into next year, is to establish a measurement method, to measure a significant sample of lifts of all types and uses in the different countries represented: Italy, Germany, Portugal and Poland. This study will complement the sample analyzed in Switzerland, following a similar method. To complement this technical study, ELA member associations contributed to a major Energy survey, analyzing the profile of their building stock (residential, administrative,

hospitals, industrial,...) and assessing the energy consumption of their lift stock, based on the existing ELA statistics. This is only a rough estimate, but complementing the technical survey that is being done in 4 countries.

We are “in the middle of the ford” and have sent our Interim report to the European Commission in the beginning of July. The technical measurements are completed in Portugal, they are on-going in the 3 other countries. We are not yet sure of the importance of the potential saving that will be possible, but we are sure that it will be

significant. The lift industry is taking its share of the energy efficiency improvement and will work closely with the European Construction federation FIEC to participate in the reduction of the energy consumption of the built environment.

The Energy-performance of buildings directive is under revision. It is the right time to do this. More news in the coming months.

## Energy Efficiency of Lifts

Up to 80% stand-by consumption!



Jürg Nipkow, Swiss Agency for Efficient Energy Use



[www.energy-efficiency.ch](http://www.energy-efficiency.ch)

Lifts are considerable electricity consumers in buildings – especially commercial.

In a Swiss research project (2005) energy consumption (kWh) and division into drive and stand-by energy have been investigated. 33 lifts of different types and manufacturers were measured and analysed. A projection of energy consumption by a standard usage was calculated.

Final report > [www.electrify-research.ch](http://www.electrify-research.ch)



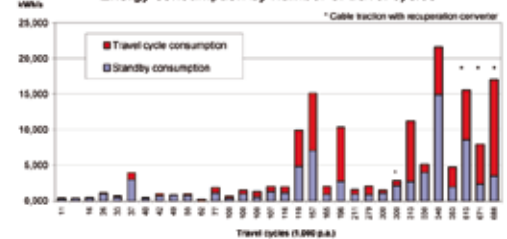
[www.swiss-energy.ch](http://www.swiss-energy.ch)

### Energy consumption figures

Total electricity consumption of the approx. 150,000 lifts in Switzerland was projected as 280 GWh p.a. or 0.5% of the country consumption. In certain buildings, lifts may account for up to 10% of the electricity consumption.

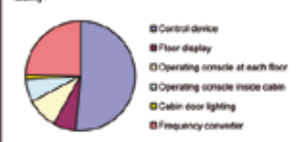
Type of building	Capacity kg	No. of stops	No. of cycles p.a.	Total kWh p.a.	% stand-by
Small apartments	500	6	40,000	900	83%
Office block/ medium size apartment block	1,000	8	200,000	4,360	40%
Hospital, large office block	2,000	12	700,000	17,700	25%

### Energy consumption by number of travel cycles

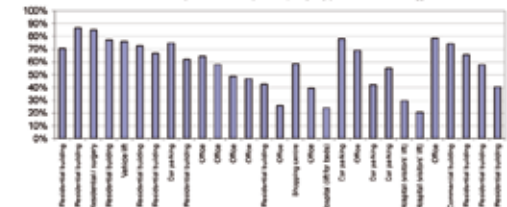


### Composition of stand-by consumption

Typical shares of the different components to stand-by consumption – example with switch-off of cabin lighting facility.



### % of stand-by consumption, by type of building



### Energy saving measures

#### Technology

- Reduce stand-by power, develop sleep mode
- No lights on or doors under power when not in use
- No hydraulic drive unless with counterweight or energy storage
- Efficient drives: adjustable speed drive, frequency converter, IMA-motor, gearless drive, recuperation converter
- Optimisation of counterweight: 20% instead of 40...50% of nominal load, according to average load
- Efficient lighting: FL & CFL instead of halogen lamps

#### Planning and dimensioning

- A minimal number of lifts in a building reduces cost, required space and power/energy needs
- Lower travel speed results less power: 0.63 metres per second is sufficient for up to 6 and more stories
- LR control: collective instead of taxi operation saves travel cycles
- LR system architecture: suspension type and guide elements influence friction losses

### Typical power input while travelling down - up (rope lift, empty)



## Energy The Swiss study

The first serious energy survey made on lifts in Europe, was produced in Switzerland, by the Swiss federal office of Energy. One of its authors is none other than Urs Lindegger, who now heads the ELA Energy working group. This study carefully measured with the most sophisticated equipment, some 40 lifts of all types and ages in Switzerland. The result was the astonishing discovery that – though lifts consume very little energy - stand-by consumption was by far the highest, compared to the functioning of the lift! We should therefore concentrate on the high energy potential saving in stand-by. Here is the summary of the Swiss study itself.



# General Assembly

## in Madrid: report & photos

The ELA General Assembly 2009 was held in the capital of Spain, at the Occidental Miguel Angel hotel – Madrid. There was a record participation of members, as well as in Budapest the year before. Numerous participants from Spanish companies took advantage of the proximity to attend the ELA Conference on Accessibility that preceded the General Assembly itself.

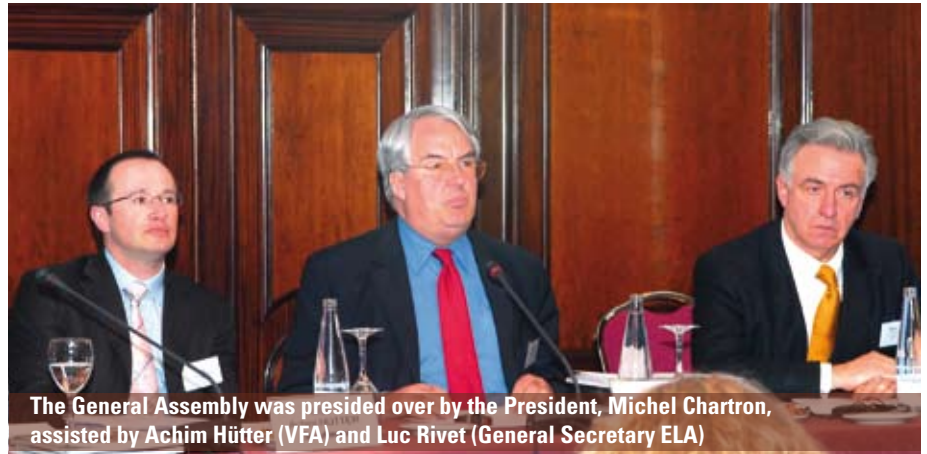
The new faces on the ELA Board of Directors, are Giuseppe Lupo, from AssoAscensori, the Italian association, Joop Thissen, representing the Dutch



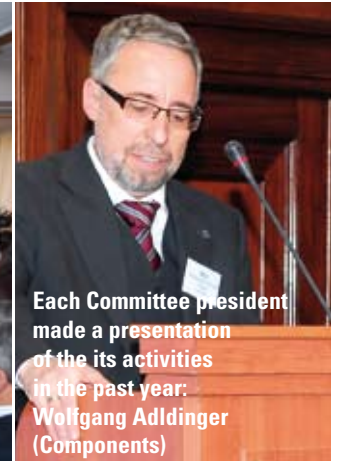
association VLR, and Philippe Lamalle, representing EEA.

Everything went smoothly during the day as well as for the gala dinner, held at a masterpiece of XIXth century architecture: the former Casino of Madrid, where the delegates could listen to a speech made by Mrs Inmaculada Placencia Porrero, Deputy Head of Unit in the unit for the integration of people with disabilities in DG Employment.

A successful General Assembly. Our thanks to the Spanish association FEEDA, for their greatly appreciated help in organizing the General Assembly in Madrid.



The General Assembly was presided over by the President, Michel Chartron, assisted by Achim Hütter (VFA) and Luc Rivet (General Secretary ELA)



Each Committee president made a presentation of the its activities in the past year: Wolfgang Adldinger (Components)



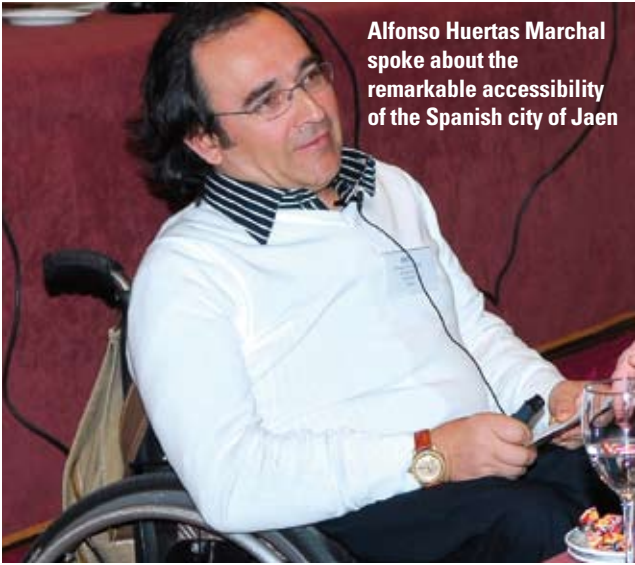
Juha Mennander (Quality, Safety Environment & Education)



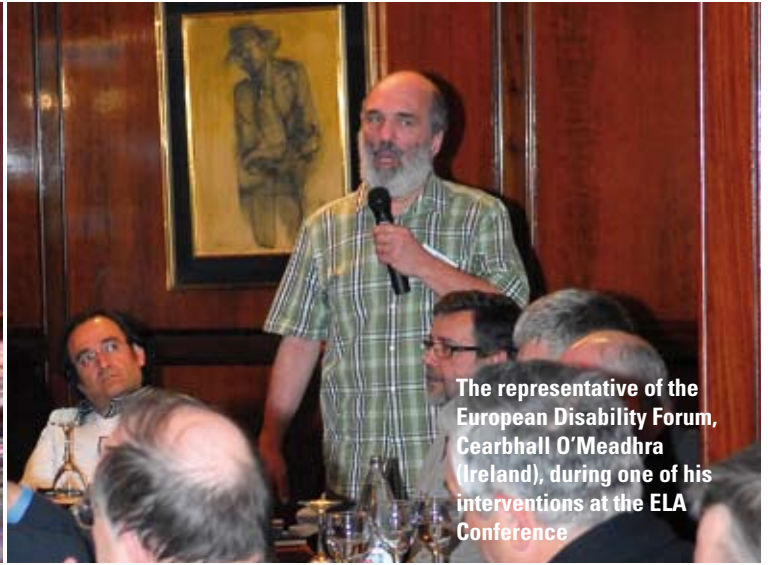
Philippe Lamalle (Codes & Standards)



Philippe Casteleyn (Communication)



**Alfonso Huertas Marchal spoke about the remarkable accessibility of the Spanish city of Jaen**



**The representative of the European Disability Forum, Cearbhall O'Meadhra (Ireland), during one of his interventions at the ELA Conference**

# Conference in Madrid:

## Accessibility, key issue for the coming decades

Every year, the General Assembly is the occasion to organize a conference on one of the main topics of interest for the lift & escalator industry.

On April 2nd, 2009 the theme of the Conference was "Accessibility". It is recognized for years now, that the ageing of the population will make this issue even more acute in the nearby future. With the doubling of the population of 75+ in the decade to come, we can expect disabilities of all types to become much more frequent. People with disabilities are

only the vanguard of us all. We need to make the built environment much more accessible than it is now.

The conference, introduced by ELA President Michel Chartron, made this issue a centerpiece of the ELA action in the coming years. The President detailed the ways forward (presentation available on the public space of the ELA website [www.ela-aisbl.org](http://www.ela-aisbl.org)), which was done by the other speakers, Alfonso Huertas Marchal, a person with disability from Jaen in Spain, who presented the original solutions

found in his city. The third speaker was the Belgian architect Marc Dujardin, a specialist of accessible buildings who explored new design methods to fully integrate accessibility for all, and the last speaker was Francesc Aragall, from ProA solutions, specialized in access for people with disabilities, who presented several important projects in the city of Barcelona, really focusing on users.



**Francesc Aragall, from ProAsolutions, explaining the accessibility solutions of the new stations in the Barcelona Underground**



**Marc Dujardin, Belgian architect, speaking about "designing in the dark"**



**Alfonso Huertas Marchal and Jesus Ladero**



# EN81-58: Good news from the United Kingdom



The harmonized norm EN81-58 defines the way of fire-testing lift landing doors. It is essential for the industry, especially for lift doors manufacturers, who need to be able to certify their doors once, and install these certified doors everywhere in Europe without having to do expensive laboratory testing again. This is what European norms are all about! Since the EN81-58 norm is specifically linked to the Lifts directive 95/16/EC, it is considered “harmonized”, which is an even stronger recommendation to use.

Its application is accepted throughout Europe for a long time now, but two countries, the United Kingdom and Denmark, still had doubts about the efficiency of norm EN81-58.

Some of their civil servants in charge of safety were afraid the new norm was not as efficient as the old national standard.

This problem is finally lifted for the United Kingdom (see the British government website <http://www.planningportal.gov.uk/england/professionals/en/1115315762605.html>).



The ministerial department in charge for the UK had commissioned some comparative testing of doors using the two standards: EN 81-58 and the “old” British (BSI) standard BS 476 part 22.

The conclusions of this work, done in a British laboratory, are that for the purposes of Item 2.d of Table B1 (provisions for fire doors) of Approved Document B (Vol2), results from EN 81-58 tests can be accepted as equivalent to BS 476 part 22.

In due course, the Department intends to publish the report from this work and amendments to the Approved Document necessary to meet the requirements of the Lifts Directive.

In other words, the certification of all lift landing doors produced in Europe is also valid in the UK. We expect Denmark to align as well, since it is the last European country making difficulties for the application of the fire-testing of lift landing doors.



Testing of lift landing doors at the Ghent laboratory



# VDI 4707

a Guideline produced  
in Germany

*By Undine Stricker-Berghoff, Secretary General VFA*

Among the many efforts at defining a way to measure energy efficiency of lifts, the German association of engineers VDI has produced a "Guideline", VDI 4707 part 1 "Aufzüge – Energieeffizienz", available in German and English (see [www.beuth.de](http://www.beuth.de)), which is not a standard in itself but a general recommendation to all concerned including industry. VDI 4707 contains a classification proposal, which is already

being adopted by individual companies and Notified bodies in the German-speaking countries, such as Austria, Switzerland and Germany, as well as the Netherlands and Belgium. The next step is to make an analysis of the possible improvements for components' families. Our member, the German association VFA now proposes the VFA-Software Energy Label with an Energy Certificate, which is available on the VFA website at a modest price, and is a support for the dissemination of VDI 4707.



Since there is not yet any standard available for the world of lifts and escalators on the energy efficiency of the equipment, this initiative is welcome by many as a temporary solution, waiting for the ISO-CEN standard in development.

## IN BRIEF

### ELA AWARD 2008 goes to France



**From left to right, Jean-Luc Detavernier, the new General Secretary of the French association, his predecessor Jean-Pierre Cadeau and Michel Chartron, ELA's President**

the French lift industry, it is a very large effort that needs to be provided in order to be able to answer the thousands of calls for tender, for all types of lifts, of all ages that have flooded companies, in order to put old lifts in conformity with the new legislation.

The French association also managed to obtain that a specific lift & escalator technical curriculum be created in French technical schools, to support the demand for skilled technicians that the application of SNEL represents in France. Jean-Pierre Cadeau, who retires this year, can be proud of the achievements of the Fédération.



The French "Fédération des Ascenseurs" receives the ELA Award for the second time. It was clear to the Communication Committee, which had to do the selection, that

the Norwegian association had managed to obtain a government recommendation for the application of SNEL, but that the French association had really managed to steer the very heavy program of safety improvement that the French SAE (Safety of Existing Lifts) legislation represents. For



## **Wikipedia**



The Communication Committee is looking into the documents on lifts & escalators presented by the well-known “free” encyclopedia, which is available to all on the net: Wikipedia. This encyclopedia is consulted by millions of people every day. Hans Hoogerdijk, from the Dutch VLR, has analyzed the documents already available on the Wikipedia website, and there are no real mistakes or wrong information. It is a good point, since the originality of Wikipedia lies in the fact that anybody can make changes to the definitions and information on any word/topic. The next step is to introduce references to the European Lift Association and its work. It will be done in the fall.

## **Welcome Luxemburg**



The Luxemburg lift association had been absent from ELA for many years. They have decided to rejoin the European association. Welcome back to Victor Goedert, the President and all members of the “Fédération Luxembourgoise des Ascensoristes”. For more information, consult their website [www.fda.lu](http://www.fda.lu)

## **New chairman C&SC, new member of the ELA Board**



Philippe Lamalle, Chairman of the Codes & Standards Committee for many years, has joined the Board of Directors, and in conformity with the ELA internal rules, has abandoned his position in the C&SC. He is replaced by Christian de Mas Latrie, also from the French association, and Chairman of ISO TC178. Welcome to Christian at the head of this important ELA Committee.



## **Statistics available**

The Statistics resulting from the new automatic collection system were presented at the last General Assembly and are available on the ELA website, in the Members only section of the site. We have managed to “catch up” by collecting the years 2006, 2007 and 2008, which makes it possible to have continued basic statistics for most European countries in the last five years 2004 – 2008.

In the coming months, the task of the Statistical Committee, will be to improve on the collection system and to improve the data collected on accidents. It is vital for the industry to identify the most common causes for accidents, both for users and for mechanics.



For more information please contact ELA at following address  
E-mail : [luc.rivet@ela-aisbl.org](mailto:luc.rivet@ela-aisbl.org)  
Web : [www.ela-aisbl.org](http://www.ela-aisbl.org)

Boulevard du Souverain/Vorstlaan, 207/5  
B-1160 Brussels  
Tel: +32 2 779 50 82 Fax: + 32 2 772 16 85