

The Netherlands, January 2011

Dear Members of ISUFT,

In this newsletter, we would like to look back on the 6th conference of ISUFT, organized in Shanghai by the Underground Space Sub-society of CSRME and the Underground Space Design & Research Institute of the Shanghai Municipal Engineering Design general Institute (SMEDI).

Fan Yiqun from SMEDI was so kind to help me with writing this newsletter. Dear Fan Yiqun of SMEDI, thank you for your support. Gerard Kruisman was so kind to answer the question: "How do we educate (young) Pipeline Engineers (Pipeliners)?" I also like to thank the organizers of ISUFT 2010, Prof Qian Qihu and his team. And last but not least Mrs. Carla Roberts for her support.

Looking back on the 6th Conference of ISUFT in Shanghai by Fan Yiqun

The 6th International Society for Underground Freight Transportation Conference (ISUFT2010) was held in Shanghai on Nov 17-18, which was aimed at providing a platform for participants to exchange the latest technologies and achievements in underground freight transportation (UFT).

More than 14 academic papers and reports from about six countries were collected in ISUFT2010, illustrating not only advanced UFT cases and development technologies both at home and abroad, but forward-looking UFT conceptions and ideas for development and application of UFT in the future. By combining academic viewpoints with practical experience, the conference introduced new academic frontiers as well as the latest progress of UFT comprehensively. ISUFT2010 provided a precious platform for urbanizing cities in China to share their advanced experience and technical achievements in the development of UFT overseas.

Apart from being the organizer of ISUFT2010, along with Underground Space Sub-Society of CSRME, SMEDI came up with the idea of utilizing UFT system for domestic waste transfer in Shanghai. Preliminary fundamental research has been carried out with the cooperation of Shanghai Jiaotong University and Tongji University. These research achievements were reported by Dr. Fan Yiqun from SMEDI in this conference. Attendees also learned of research progress on conceptual design of the underground tube freight transportation system in Korea as well as application study and further development of the Pipe\$net system in Italy. In addition planning of an underground logistic system in Beijing and the introduction of a container transport mode in deep water ports were discussed.

The conference was sponsored by International Society for Underground Freight Transportation (ISUFT), Chinese Society for Rock Mechanics and Engineering (CSRME), and Division of Engineering Management Chinese Academy of Engineering (CAE), and was organized by Underground Space Sub-Society of CSRME and Shanghai Municipal Engineering Design general Institute (SMEDI). ISUFT2010 was also supported by Shanghai Construction and Transport Committee (SCTC). Qin Yun, chief engineer of SCTC, attended the opening ceremony; and Liu Qianwei, deputy chief engineer of SCTC, attended the whole conference.



UEFT-project in Shanghai by Fan Yiqun

USDI of SMEDI is going to hand over their research achievements on the Underground Environment Freight Transport (UEFT) system to local government departments in the form of an expert proposal.

The current state of municipal waste disposal is getting more and more severe in Shanghai; The Chinese "Waste Crisis" is more pronounced day by day as the output of municipal waste increases annually and the waste disposal ability of the city is unsatisfactory. In the proposal of UEFT system, the waste collection and transportation processes will be moved underground. Waste will be compacted into standard containers and transferred by automatic and low-energy-cost transport capsules via underground tunnels. UEFT can provide undisturbed, around-the-clock steady, efficient and eco-friendly waste transportation to a large modernized waste disposal factory located far from the urban area. It may decrease or even eliminate temporary dump locations in the city. In addition,

construction costs of many infrastructures such as roads and bridges may be saved. If accepted, the UEFT system will be beneficial to relieving the pressure of an increasingly serious municipal waste crisis.

Moreover, if pneumatic pipeline system for waste collection and transportation is applied at the front end of UEFT, waste can be classified at the source, which will promote the cyclic utilization of waste and production of renewable energy sources. Furthermore, considering that other daily transportation like consumer goods delivery, electronic commerce logistics etc. are compatible to the UEFT system, the development of UEFT may reduce the volume of road freight transport by at least by 10%. At the same time, there will be less traffic jams, a lower traffic accident rate and better traffic environment; due to concurrent development of related hi-tech industries such as mechanical automatic control and advanced material manufacturing.

Based on the above analysis and discussion, SMEDI urgently recommends that the local government in Shanghai approve project initiatives of the proposed municipal UEFT system. It is hoped that the proposal will receive our leaders' attention and push forward the primary study of UEFT system in Shanghai.

In order to promote the development of UEFT in China along with other peers both at home and abroad, SMEDI is going to continue the fundamental research of UFT in Shanghai in preparation for the reply of local government on our proposal next year.

ISUFT-board meeting and panel discussion in Shanghai by Johan Visser

The meeting was attended by almost all attendees of the conference. The meeting was started by the chairman who explained the objectives of ISUFT as was formulated by late Dr Henry Liu in the bylaws of ISUFT. The objectives of ISUFT are:

- 1) To seek expanded use of UFT for societal benefits.
- 2) To promote public awareness in the capability and benefits of UFT.
- 3) To encourage research in UFT.
- 4) To encourage educational programs in UFT at universities and other educational institutions.
- 5) To provide an international forum in which developments of UFT technologies throughout the world can be communicated via conferences, symposia, websites, newsletters, lecture courses, etc.
- 6) To organize and offer an ISUFT conference or symposium every two to three years.

Most of ISUFT's activities are related to research. A necessary addition to our activities should be to promote public awareness, and in particular, to raise interest from politicians. Although most ISUFT members have met with private and government interests to propose UFT alternatives and even initiated public information campaigns in their respective countries, a collective effort to bring UFT benefits to the attention of transportation planners worldwide is essential to the success of ISUFT objectives. Two other important activities are

enhancing collaboration between ISUFT members and to publish ~~twice a year~~ a bi-annual newsletter.

The following topics are discussed:

- The website should be updated (Gerard Kruisman)
- Enhance international collaboration:
Since Europe and America have more experience on underground freight transportation, there is a need to set up more cooperation projects between governments (Qian Qihu). Kruisman recommended making smaller circles (Asia, Europe and America). Another suggestion was to produce a white paper by ISUFT (via email from Najafi)
- Election of new President, Vice-president and Secretary-Treasurer (Kruisman, Qian Qihu)
- Cooperation with ACUUS and ITACUS (Qian Qihu)
- Corporate Membership (Winkelmans)
- Enhance publicity and governmental support (Winkelmans, Qian Qihu)
- Set up of a project supported by the Chinese government (Qian Qihu)
- To expand the Board with more countries, such as Korea and Italy (Winkelmans, Qian Qihu)
- Next conference:
The delegacy from Korea is very interested in organizing the next conference. They can let us know around Summer 2011 if it is possible for them to organize the next conference in 2012 or 2013. Note from the chairman: as in the past we will invite all members to submit a proposal for organizing the next conference. The Board will decide who will organize the conference.

The chairman concluded he will set the following activities in action;

- Publishing a newsletter after the conference and updating the ISUFT website.
- Make preparations for the next conference, following the procedure as set out by the bylaws.
- The board will be asked to discuss and to make a decision on:
 - Expanding membership of the board
 - New elections of the board
 - Initiatives for international cooperation
 - Expanding our network of corporations

In the next newsletter we will let you know what the board has decided. Your comments and ideas are very welcome!

How and Where do we take care of the next generation of Pipeline Engineers?

by Ir G. Kruisman, President of the Pipeliner Foundation, The Netherlands

During the closing ISUFT Board meeting & panel discussion with participating members of the 6th ISUFT conference, the question was raised: "How do we educate (young) Pipeline Engineers (Pipeliners)?" It was not the time and place then to dig deeper into the subject,

but the conclusion seemed to be that further investigation into the subject and an exchange of experiences through ISUFT would be valuable to the members and within the goals of ISUFT.

“Young” is placed between brackets, because we need Pipeline Engineers at operational level (bachelors) and at tactical/strategic and generic level (Professional and Msc masters). The latter will in general be practicing Pipeline Engineers who want to broaden their knowledge and knowhow after a sufficient number of years in practice to get a better understanding of the multidisciplinary scope of pipeline technology as a transport modality as part of the social infrastructure.

In both cases knowledge and knowhow must be transferred from older and experienced engineers to the next generation.

Our late founding President Prof. Henry Liu wrote in 1998:

A national survey on pipeline engineering research and education at engineering and mining colleges of U.S. universities was conducted in 1996-97. It was found that only 12 schools offer pipeline related undergraduate courses, and 15 offer pipeline-related graduate courses. Only one university offers Pipeline Engineering or any other similar introductory course exclusively on pipelines. A strong need exists to have more of such courses offered at universities so that civil, chemical, mechanical, mining and other engineers who use pipelines to transport liquids, gases and solids will be better prepared to plan, design, construct and operate various types of pipelines in the future upon graduation from universities.

There are a lot of short pipeline courses often focusing on a particular subject within the broad field of pipeline technology and of course there are the popular conferences on pipeline subjects covering a wide range of subjects (e.g. ASCE, ASME) but these are all fragments of the total area and do not lead to a diploma for the ‘Pipeline Engineer’.

Prof. Phil Hopkins of the University of Newcastle explores this matter in his article in Journal of Pipeline Engineering (Sept. 2008) “The skills crisis in the pipeline sector of the oil and gas business”:

His article investigates the problem of the ageing workforce in the oil and gas industry and the pipeline business, and attempts to explain why the industry is unattractive to young engineers, and the resulting importance of recruiting new staff and training existing staff. The article then covers the current education and training of pipeline engineers, and notes that the situation has been summarized in one review as ‘dire’. The current courses offered by universities on pipeline engineering are reviewed, then the education requirements for pipeline engineers are listed. It concludes that there is a labour and skills crisis in the oil and gas sector, and there are very limited formal education and training courses for pipeline engineers.

And I refer as well to a UN-Economic and Social Council document (2006): “Safety Guidelines and Good Practices for Pipelines”, where in ‘part A: Recommendations to UNECE member countries’ the first article states:

UNECE member countries should adopt policies for the safe transport of hazardous substances in pipelines, aimed at limiting accidental consequences for human health and the environment. They should raise awareness and share experience and good practices, among others, through educational programs.

As we have within ISUFT representatives of a larger number of countries where pipeline transport is an important issue, we should be able to put together a list (per individual country it may become a very limited list) of schools and universities where pipeline bachelors and masters are educated and where potential students can get a formally accredited Pipeline Engineering diploma.

A further item that can be added to this survey in line with ISUFT goals is to investigate to what extent knowledge on Underground Freight Transport (by means of pipelines) is included in these educational programs.

Although not directly connected to educational programs, but of utmost importance to the ISUFT goals, is the need to share knowledge and experiences on how to get politicians interested in the subject of Underground Freight Transport (by means of pipelines). ISUFT should know what programs are developed in the various countries to bring the subject in the public eye.

If you think this is a valuable and viable proposition, please respond via email to the Board of ISUFT with your supporting comments.

News

In January 2010, Andre Lopes from Brisbane contacted me about the coal log Pipeline of Henry Liu. He came up with a new coal log design. He hopes to start a case study in Brisbane.

Noel Hodson is putting all effort into raising capital for FOODTUBES. He made the FOODTUBES documents available (http://www.noelhodson.com/index_files/Foodtubes-pipelaying-1dec09.pdf). His Commercial /Financial model is particularly useful as an indication of costs and profits from Capsule-Pipeline systems. He will keep us informed.

Professor Najafi could not attend the conference but he proposed to put our efforts together and write a white paper on the social costs and benefits of UFT.

Mrs. Roberts helped us very much as secretary-treasurer but as she pointed out she is not an elected board member and is no longer employed by the Freight Pipeline Company.

Therefore, we need a new a new Secretary-Treasurer, appointed from the existing Board Members. If you are interested, let us know!

A new election is needed to replace two directors whose terms have expired. This concerns Willy Winkelmans and Noel Hodson. The election must take place before 31th of January 2011. They can be elected for the second term. If you are interested, let us know!
Some members paid one-year membership in 2009 and need to pay for another year!
Reminders will be sent.

Please check out our website: www.isuft.org and www.youtube.com using keyword ISUFT.

Finally

I wish you a very good New Year, in good health and prosperity! I look forward to a successful cooperation as ISUFT!

Johan Visser

ISUFT President Protem

VISSER@otb.tudelft.nl or jgsnvisser@hotmail.com

Cc to fpc_carla@yahoo.com