



ASSOCIATION
INTERNATIONALE DES TUNNELS
ET DE L'ESPACE SOUTERRAIN

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INTERNATIONAL TUNNELLING
AND UNDERGROUND SPACE
ASSOCIATION



The International Tunnelling and Underground Space Association YOUNG MEMBERS GROUP

WTC 2014 IGUAZÚ, BRAZIL

Introduction

- ▶ **Welcome** to World Tunnelling Congress 2014 Iguazú, Brazil, **creation of ITAYM**
- ▶ ITAYM is something **NEW** to International Tunnelling and Underground space association.
- ▶ **Give it a go** and create Young Members at your local tunnelling society and join this incredibly fast movement.

Presentation outline

- ▶ Background – History
- ▶ Objectives and activities
- ▶ Membership
- ▶ YM established examples
 - ▶ United Kingdom (5 years)
 - ▶ Australia (2 years)
 - ▶ Denmark (0.5 year)
 - ▶ Canada (0.5 year)
 - ▶ Norway (5 years)
- ▶ Plans for 2014/2015

Background – History

► Presenter:

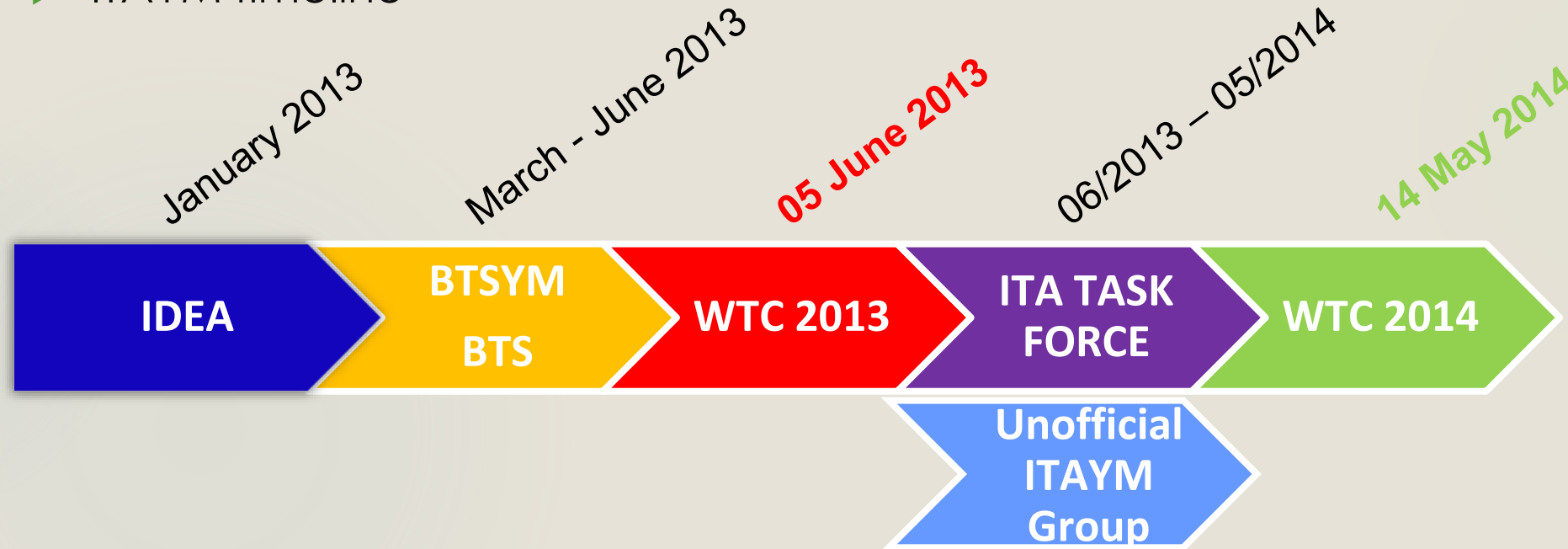
Petr Salak (Dr. Sauer & Partners)

Vice-chair ITAYM

Past-chair BTSYM (British Tunnelling Society Young Members)

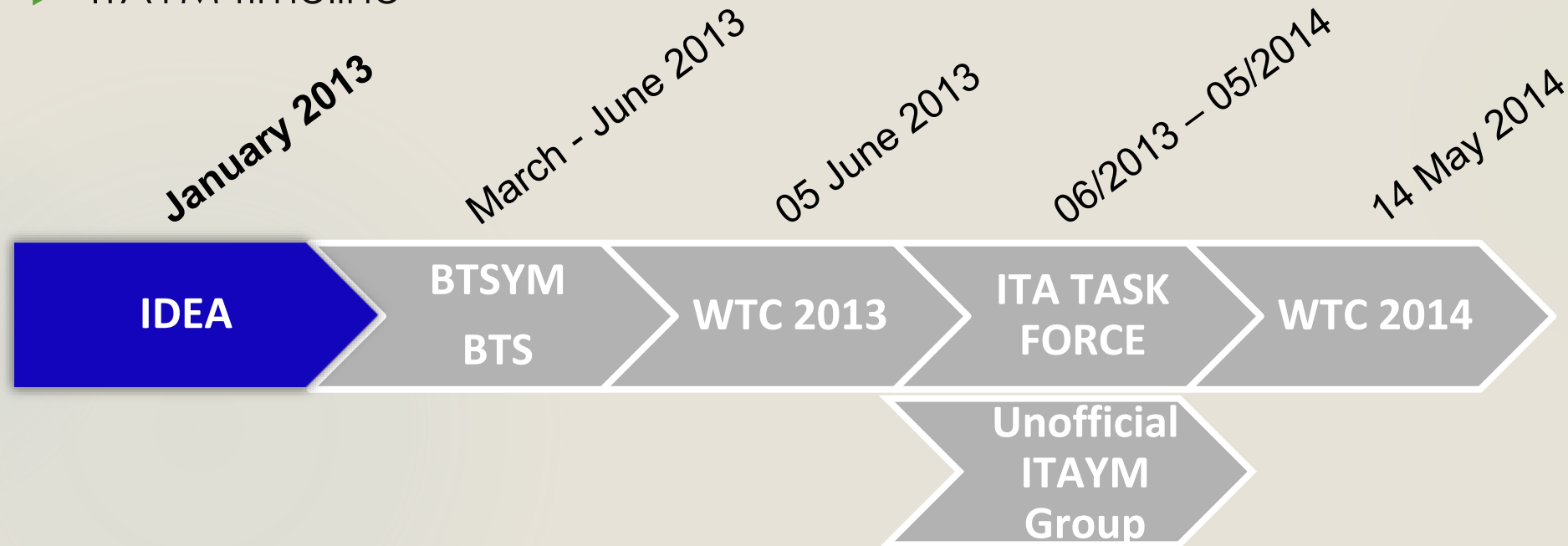
Background – History

► ITAYM timeline



Background – History

► ITAYM timeline



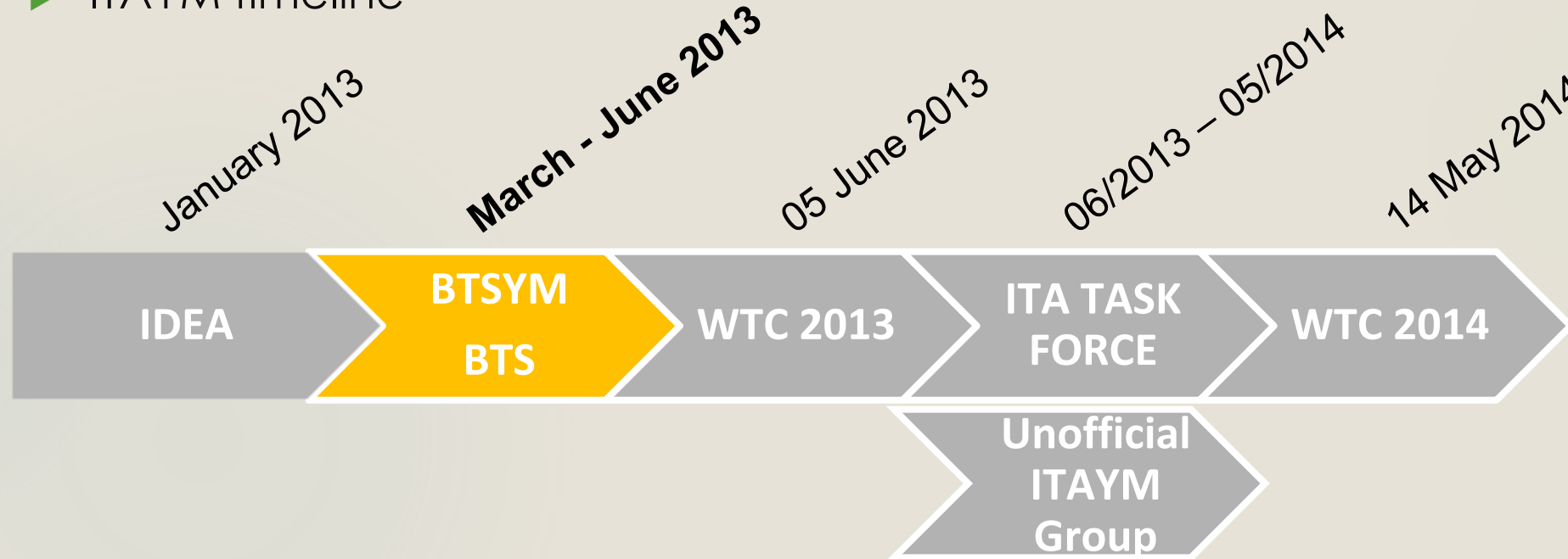
Background – History

► MARK TWAIN

“a person with a new idea is a crank until the idea succeeds”

Background – History

► ITAYM timeline



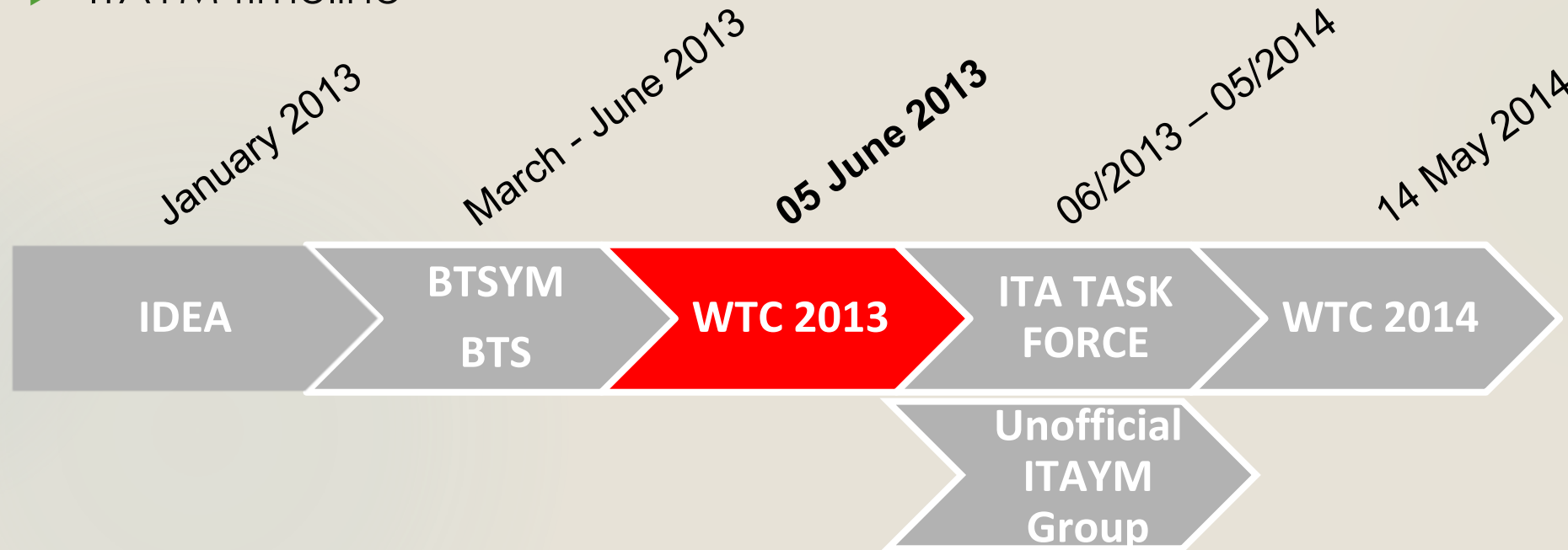
Background – History

- ▶ British Tunnelling Society (BTS) and BTS Young Members



Background – History

► ITAYM timeline



Background – History

- ▶ World Tunnelling Congress 2013, Geneva, Switzerland
- ▶ BTSYM with BTS support suggested to the ITA to establish the ITAYM



Background – History

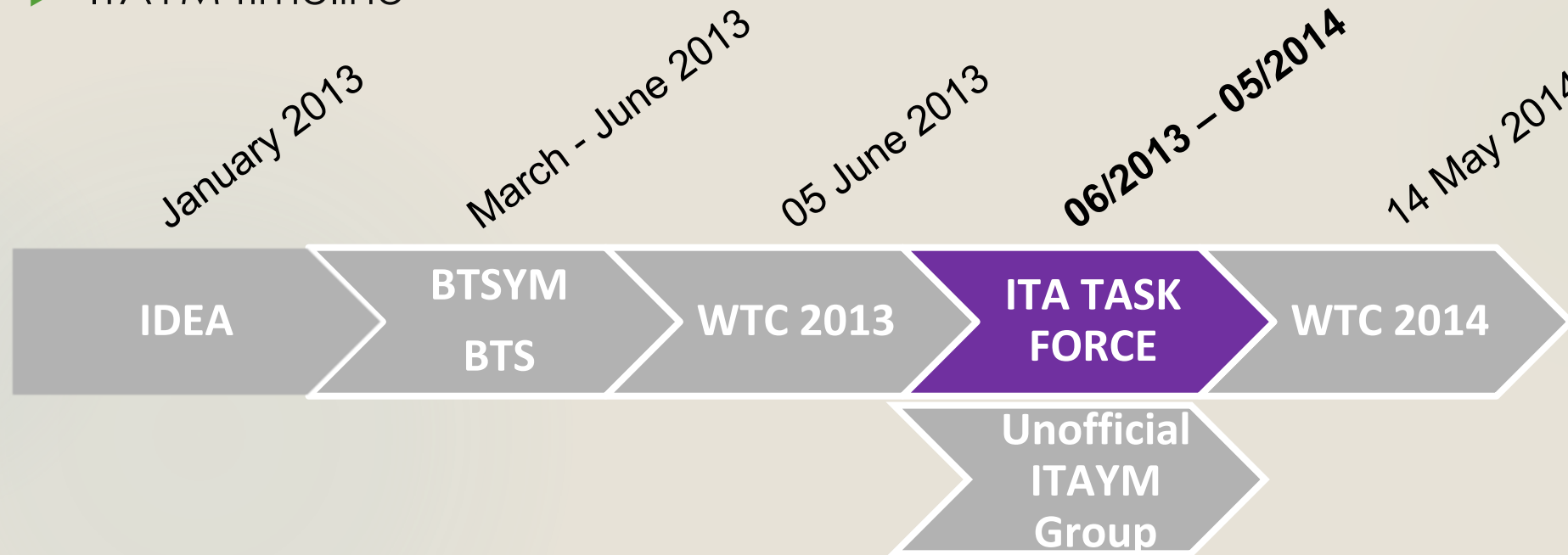
- ▶ Suggestion:

Creation of International Tunnelling and Underground Space Association
Young Members Group (ITAYM)

- ▶ Prove value for the ITA to encourage each Member Nations to establish their own 'Young Members' group
- ▶ Followed by the creation of the ITAYM to foster links between the young tunnellers worldwide

Background – History

► ITAYM timeline





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Background – History

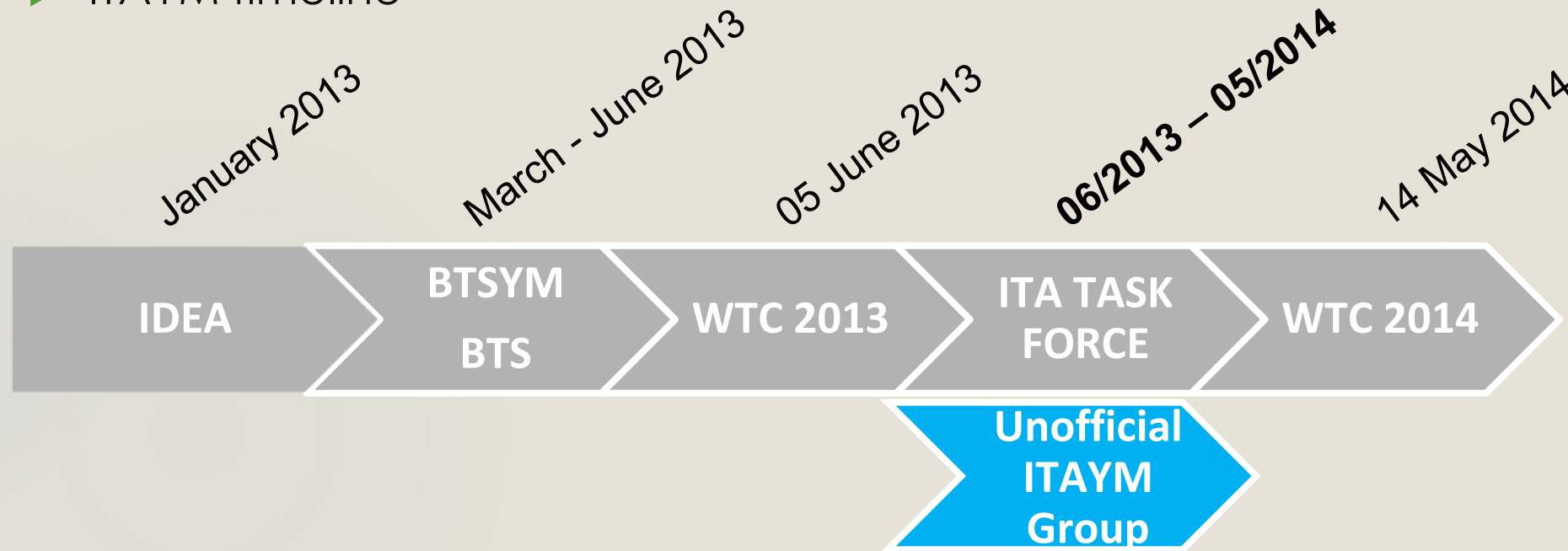
- ▶ ITA Task Force
- ▶ The ITA Executive Council created the ITAYM Task Force to:
 - ▶ Review the idea
 - ▶ Make sure that the ITAYM fits well into the ITA
 - ▶ Finalise aims and objectives
 - ▶ Create the motion (by-laws)
 - ▶ Present results to ITA ExCo
 - ▶ Approve the budget

Background – History

- ▶ ITAYM Task Force:
 - ▶ Alexandre Gomes (Chile)
 - ▶ Amanda Eliooff (USA)
 - ▶ Daniel Peila (Italy)
 - ▶ Olivier Vion (ITA executive director, France)
 - ▶ Jurij Karlovšek (YM Australia)
 - ▶ Petr Salak (YM UK)

Background – History

► ITAYM timeline



Background – History

- ▶ Unofficial ITAYM Group:
 - ▶ Over 1 year of involvement
 - ▶ Providing support to the ITAYM Task Force
 - ▶ Helping with Objectives, Aims, Motion (by-laws), Budget
 - ▶ Creating promotion material, logo, website, etc.
 - ▶ Providing support to other countries in establishing YM



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Background – History

► Unofficial ITAYM Group:

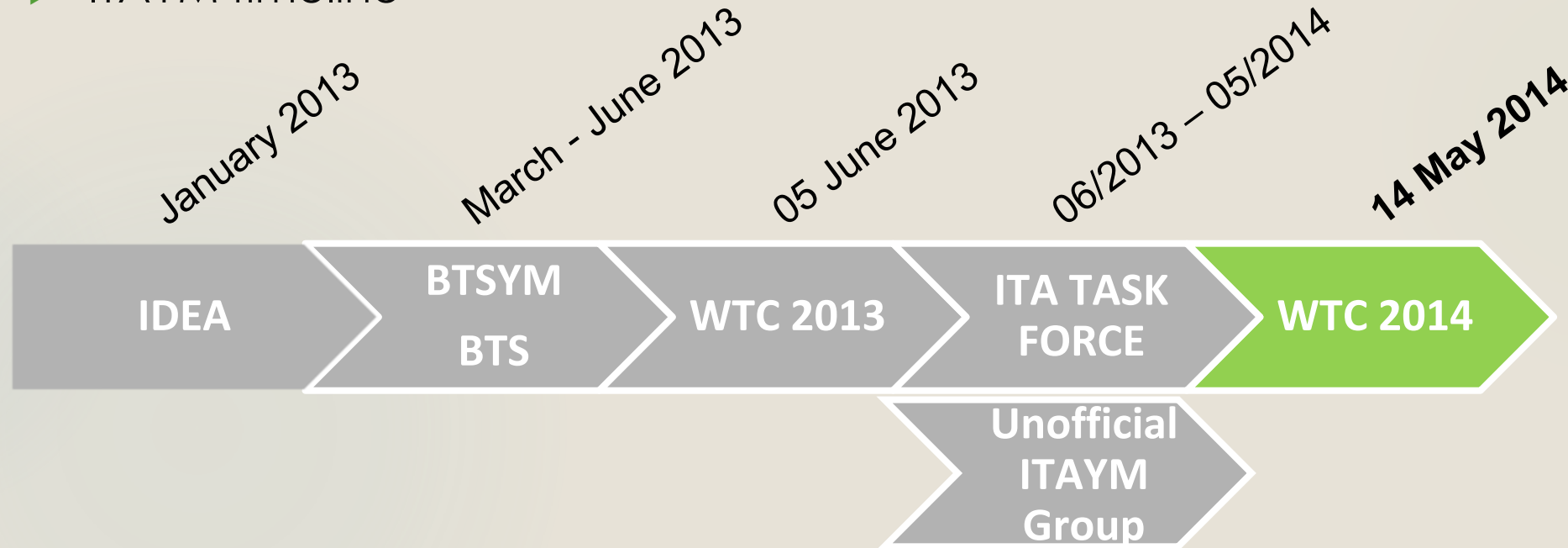
- Jurij Karlovšek (YM Australia)
- Lasse Vester (YM Denmark)
- Nichole Boulton (YM Canada)
- Petr Salak (YM UK)
- Sindre Log (YM Norway)

Background – History

- ▶ Nominated **ITAYM Steering Board** for 2014/2015:
 - ▶ Chair: Jurij Karlovšek
 - ▶ Vice-Chair: Petr Salak
 - ▶ Treasurer: Lasse Vester
 - ▶ Secretary: Nichole Boulton
 - ▶ Communications and Marketing Officer: Sindre Log

Background – History

► ITAYM timeline



Background

- ▶ **WTC2014**
- ▶ Establishment during the WTC 2014
- ▶ Inspiration to many countries in establishing Young Members
- ▶ Large impact on tunnelling industry





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Background

- ▶ Existing YM Groups
 - ▶ Australia
 - ▶ Canada
 - ▶ Columbia
 - ▶ Denmark
 - ▶ Norway
 - ▶ South Korea
 - ▶ United Kingdom

Background

- ▶ YM Groups under development:
 - ▶ USA
 - ▶ Greece
 - ▶ Your country?
 - ▶ **BE THE NEXT ONE...**

Objectives and activities

► Presenter:

Jurij Karlovšek

(University of Queensland)

Chair ITAYM

Chair ATSYM



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Objectives and activities

► ITAYM forward



Objectives and activities

- Main objective

TECHNICAL NETWORK PLATFORM FOR YOUNG PROFESSIONALS AND STUDENTS IN THE TUNNELLING & UNDERGROUND SPACE INDUSTRY

Objectives and activities

- ▶ Secondary objectives:
- ▶ Provide international information hubs for young professionals in the tunnelling & underground space industry in order to **enable the exchange of experience** and to build on the professional network.
- ▶ Outline the need to **bridge the gap between generations** and embrace the opportunity to network across generations in the industry.
- ▶ Improve awareness of the tunnelling & underground space industry to **new generations**.

Objectives and activities

- ▶ Secondary objectives:
- ▶ To provide young professionals and students with **a voice in the ITA**.
- ▶ To look after the **next generation** of tunnelling professionals and to pass on the aims and ideals of the ITA.

Objectives and activities

- ▶ Activities:
- ▶ Arrange events for **international networking** and the exchange of experience & technology between individual member nation YM organizations.
- ▶ **Promotion and use of Social Media** to offer easier and simplified communication with a greater distribution of information within ITAYM.
- ▶ Encourage and assist member nations in **establishing domestic YM organizations** based on the uniqueness of each individual ITA member nation.

Objectives and activities

- ▶ Activities:
- ▶ Assist member nation's effort in education and in the **raising of public awareness**.
- ▶ Negotiate **better rates/fees** for young professionals to allow easier access at conferences and other events.

Objectives and activities

► ITAYM forward



Membership

- ▶ ITA membership requirement:
- ▶ The ITA YM Group is seeking **nominated representatives (under the age of 35)** from Young Members National Organisations specialised in tunnelling & underground space.
- ▶ Participation is open **to all young professionals and students** under 35 years of age who have an interest in the aims of the group and are motivated to contribute.

ITAYM Logo

- ▶ Proposed logo outline:
 - ▶ A – Document Logo
 - ▶ B – Web Page Logo
 - ▶ C – iOS / Android App

A



B



C





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Examples – United Kingdom

► Presenter:

Petr Salak (Dr. Sauer & Partners)

Vice-chair ITAYM

Past-chair BTSYM



British Tunnelling Society Young Members (BTSYM)



**Petr Salak (Dr. Sauer & Partners)
Vice-chair ITAYM
Past-chair BTSYM**

Contents

- ▶ Introduction
- ▶ Aims and objectives
- ▶ Structure (sub-groups)
- ▶ Recognition
- ▶ Conclusion



YOUNG
MEMBERS

BTSYM

- ▶ Group of like minded young tunnelling enthusiasts
- ▶ Including: students, graduates, technicians, professionals, etc.
- ▶ Under 35 years of age
- ▶ Willing to offer our free time
- ▶ 60 active members in 4 sub-groups



YOUNG
MEMBERS

Photos



History

- ▶ the BTS YM Group was introduced by **Kate Cooksey** in 2008
- ▶ over 75 young members participated
- ▶ over 200 people on our mailing list interested in our work
- ▶ organized over 20 talks, 15 site visits, 10 school visits (200 students)
- ▶ arranged conference for YM with over 150 participants



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MEMBERS

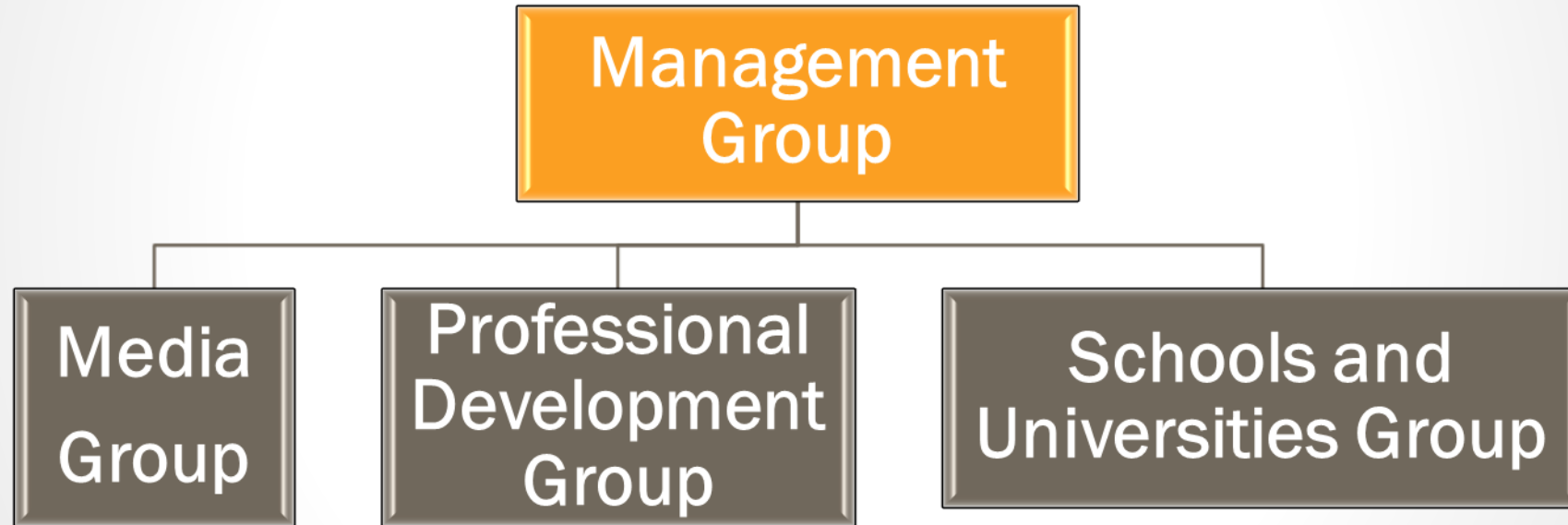
Aims and aspirations

- ▶ further our own tunnelling knowledge
- ▶ raising the profile of the tunnelling industry
- ▶ promote tunnelling as a career
- ▶ to help improve training of young professionals by conducting talks, workshops, site visits
- ▶ help improve academic programs
- ▶ endorse networking of young engineers and students within tunnelling industry
- ▶ organise tunnelling conferences for YM, etc.



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Structure of the BTSYM



Management Group

- ▶ responsible for overall co-ordination and direction of the BTSYM committee
- ▶ chair of BTSYM Committee is member of the BTS Main Committee
- ▶ setting up aims and objectives
- ▶ monitors progress of the BTSYM
- ▶ budget

Professional Development Group

- ▶ aims to educate young tunnellers
- ▶ throughout the year, the group organizes talks, workshops and debates
- ▶ plan site visits around the country
- ▶ assists main committee with BTS Calendar events e.g. BTS Dinner, BTS and H&S Course, etc.



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Site Visit – pipe jacking



Media and Networking Group

- ▶ assists in the distribution of new information
- ▶ raise the profile of the industry through tools such as a BTSYM newsletter and social media – facebook, twitter, linkedIn
- ▶ responsible for the BTSYM Website
- ▶ in charge of networking events
- ▶ maintains mailing register



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5th Anniversary Dinner



Schools and Universities Group

- ▶ organize talks and competitions at schools and universities
- ▶ prepare a Teachers Pack providing lesson plans about tunnelling, for use in secondary schools
- ▶ promote the tunnelling industry and increase careers awareness of the tunnelling industry
- ▶ support the Warwick University MSc Course



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Visits to schools



School visit feedback

“ The best science lesson ever!”

“ It was extremely interesting to learn more about tunnels and their benefits to the transportation network”

“ I greatly enjoyed the opportunity to work together in groups and discuss our ideas. It was fascinating to hear others opinions and views ”



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MEMBERS

What extra? Teachers Pack!

Why?

- ▶ Promote tunnelling industry
- ▶ Educate students – future tunnelling experts

What is it?

- ▶ Resource for use in **secondary schools**
- ▶ The pack is focused around a suite of **5 Lessons**
- ▶ Can be given by teachers 'off the shelf' without knowledge of tunnelling



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Teachers Pack

What each lesson includes?

- ▶ Lesson plan and notes for teacher
- ▶ Presentation
- ▶ Students activity & work sheets

What now?

- ▶ Trial in 1 or 2 schools
- ▶ National distribution to follow

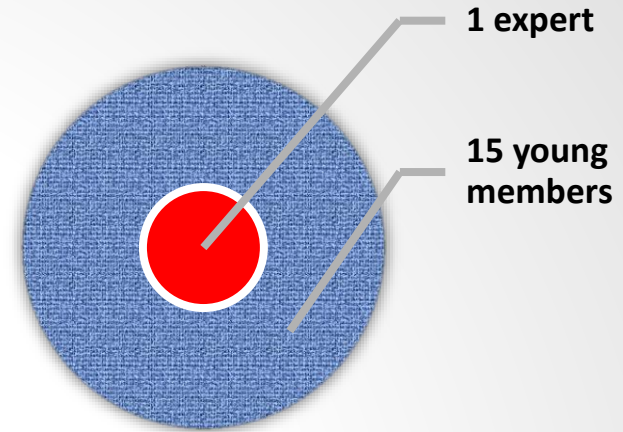
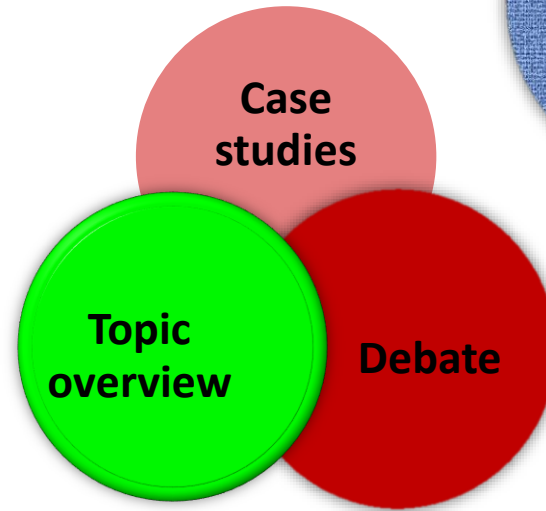


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Workshops

- ▶ 1 expert
- ▶ 15 young members

- ▶ Case studies
- ▶ Debate
- ▶ Topic overview



- ▶ Excellent for **interaction between YM and experts**
- ▶ Extensive knowledge transfer – **½ day**
- ▶ Time for plenty of questions

Recognition

The T&TI Awards 2011 – Investor in tunnellers

Winner: BTS Young Members



Mai Nguyen receives
ICE Ambassador Award



Kate Cooksey recognised
by Management Today

Conclusion – the BTSYM

- ▶ the **BTSYM** is strong part of the BTS
- ▶ established 2008 = **5th Anniversary**
- ▶ continue in sustainable development
- ▶ achieved to deliver **large number of talks, site visits, workshops, school visits, etc.**
- ▶ recognized by UK and international organizations



YOUNG
MEMBERS

Thank you



Examples – Australia

► Presenter:

Jurij Karlovšek

(University of Queensland)

Chair ITAYM

Chair ATSYM

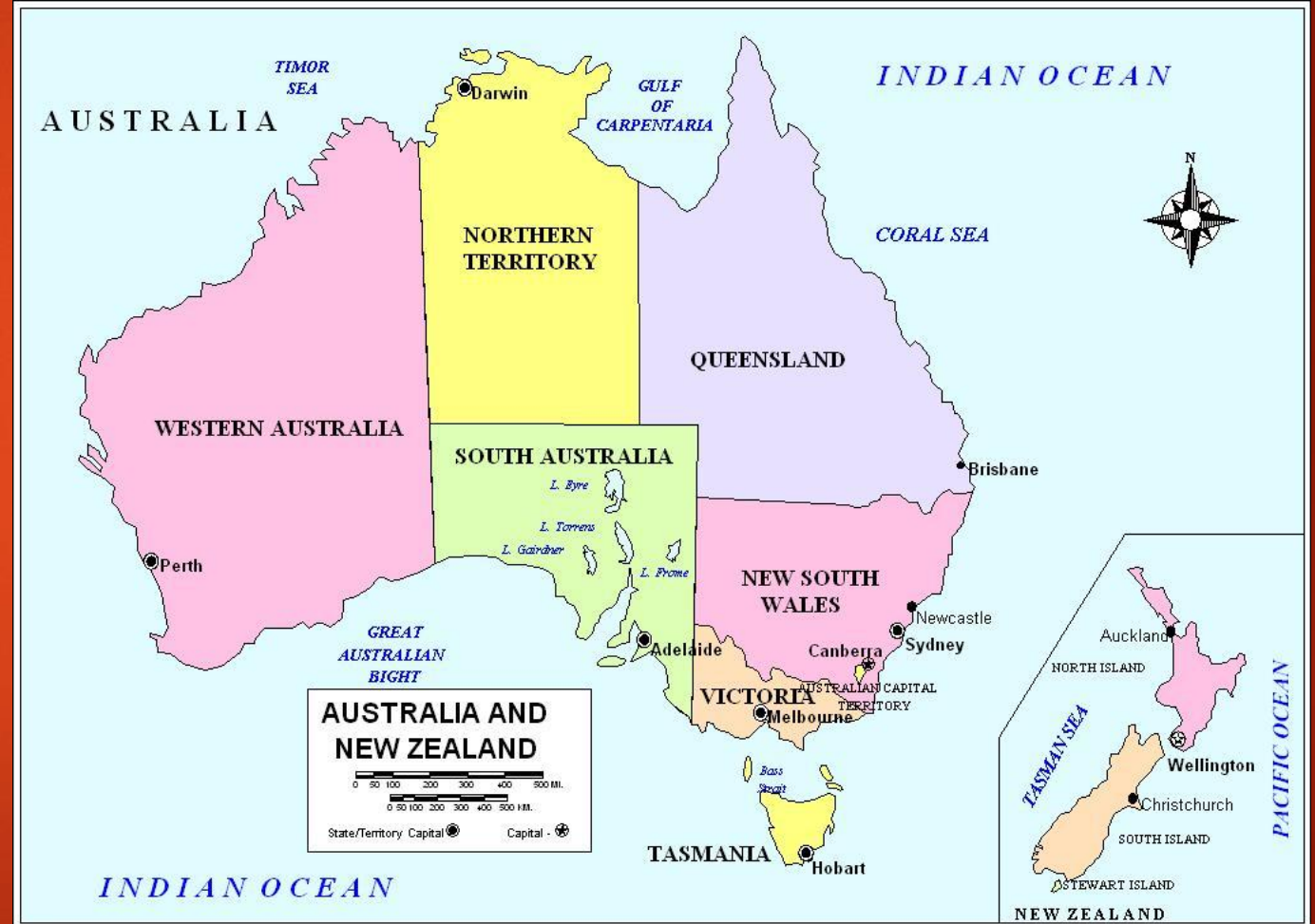


Australasian Tunnelling Society (ATS) – Young Members



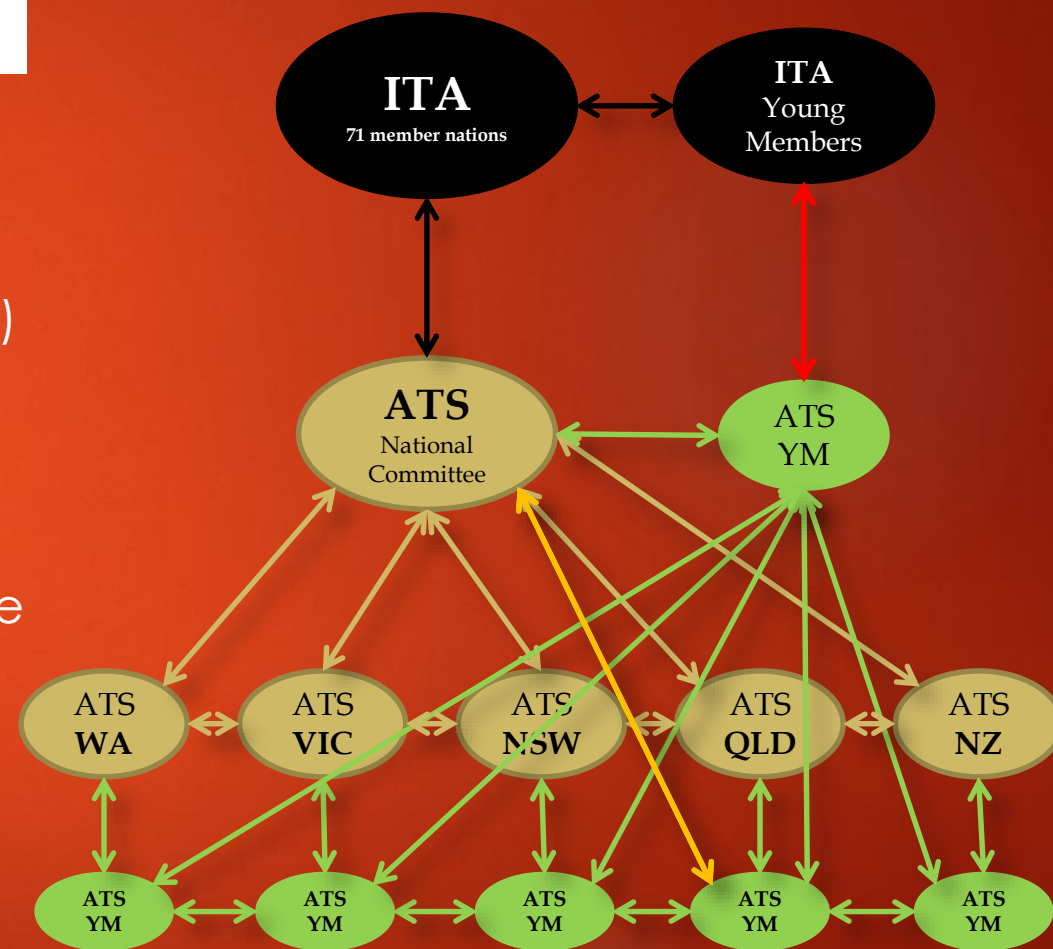


- ATS = **Australia + New Zealand**
- Australia = 6 states + 2 territories
- New Zealand = 2 islands
- Overall = **10 capital cities**
- ATS = 5 technical chapters
- ATS = 1 National committee





- ATS Young Members
Established in November 2012
Queensland, Brisbane
by **Jurij Karlovšek** (University of Queensland)
- Representation at each technical chapter
- ATSYM = 4 technical chapter representative
- ATSYM = 1 National committee representative
- **ATSYM National Committee rep = ITAYM rep**





- **Transition stage** from a student to a young professional engineer.
- Provide young professionals with an **unintimidating platform** in which they could discuss issues that affect them at this stage of their career.
- Opportunity for young professionals to build professional **relationships, seek guidance and support**.





- Members would be mainly graduates and those in the civil / mining engineering industry that are **under 35 years** of age and want to further their own tunnelling knowledge
- Members are people who would **like to promote the tunnelling industry** to others of their age and younger.
- **Increase among students and young professionals** to continue with their membership, as they would already be part of a professional networking committee.





- How we do it?
- Free beer and food for all attendees (Ask the Danish☺)
- Free technical presentations
- Join forces with the ATS (financial support)
- Site visits and technical workshops.
 - One session (April 2014 @ UQ)
 - (350 registered – 112 Young Members)
- It's just the begging...



- We have fantastic projects planned for the future...
- We need more and more young tunnelling professionals...
- Thank you for listening!
- Created by:
Jurij Karlovšek



Examples – Denmark

► Presenter:

Lasse Vester

(Femern A/S, Copenhagen)

Treasurer ITAYM

Chair DTSYM



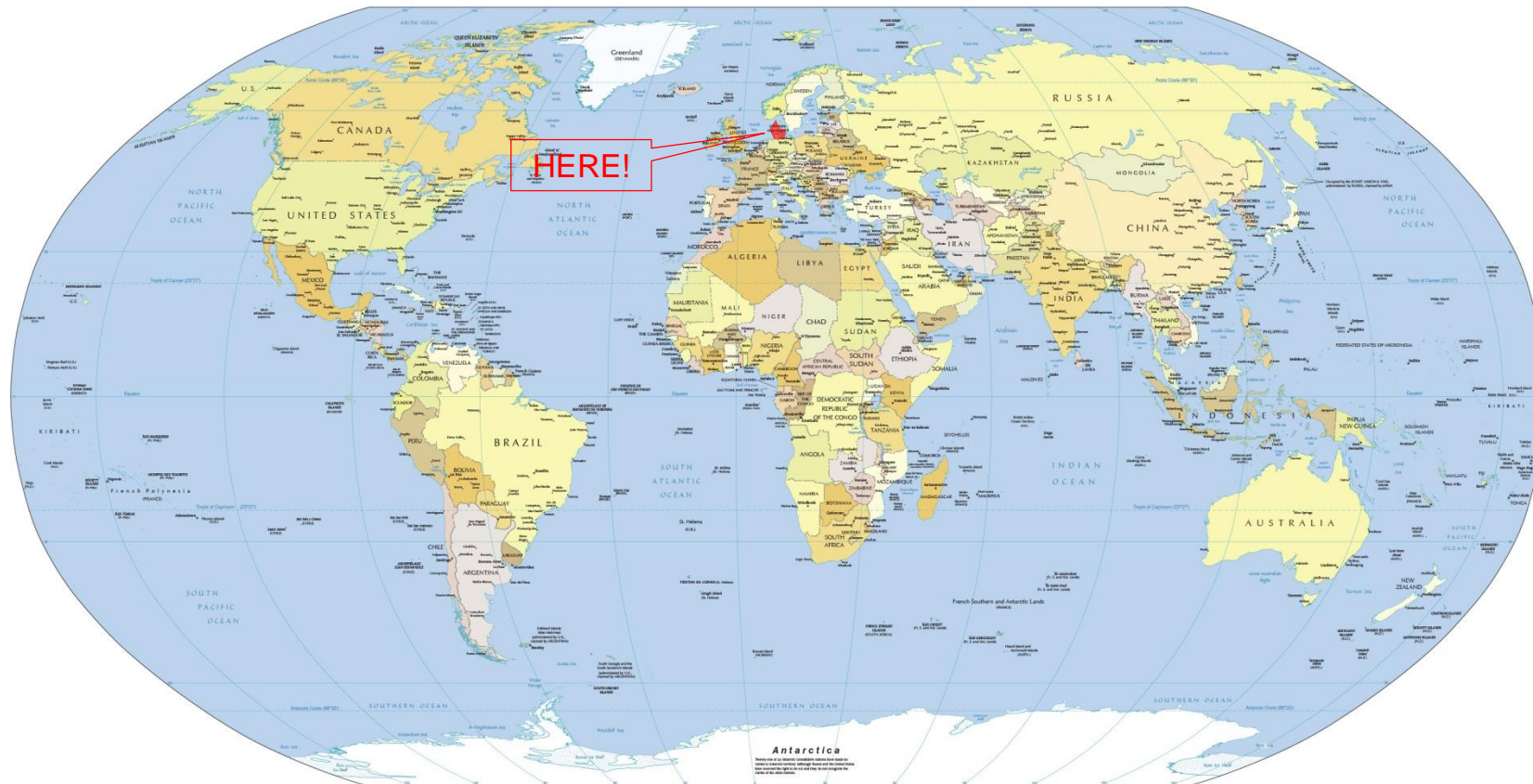
WTC 2014 Iguazú, Brazil

Danish Tunnelling Society Young Members

Lasse Vester (Femern A/S, Copenhagen)

Femern
Sund ≈ Bælt

Where's Denmark?



What have we done?

- Established a Young Members group within the Danish Tunnelling Society!
- The YM was officially established with a Founding General Assembly on February 26th 2014
- The General Assembly was attended by 32 members of the Danish Tunnelling Society below the age of 35. (in comparison we are only 5 mio. inhabitants in DK)



Why did we start it up?

Because we were missing:

- a network with other young professionals
- an open forum with a high degree of technical content
- a sense of what is going on in the industry
- an awareness of the interesting tunnelling industry in general

...and how?

By:

- sending out an e-mail asking for interest for such a forum within DTS
- establishing a small group to arrange a General Assembly
- Arranging a kick-off event presenting a large tunnel project and the young members idea
- giving people free beer and food! 😊

Where are we going?

We are only just started up but already have plans for the following in 2014

- Site visit to...
- Meeting on...
- Social event..

We encourage you to create a YM in your own country and then we'll buy you a beer at WTC 2015!





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Examples – Canada

► Presenter:

Nichole Boulton

(Golder Associates)

Secretary ITAYM

Chair TACYM





Tunnelling Association of Canada Young Members

Nichole Boulton, P. Geo



Oh Canada

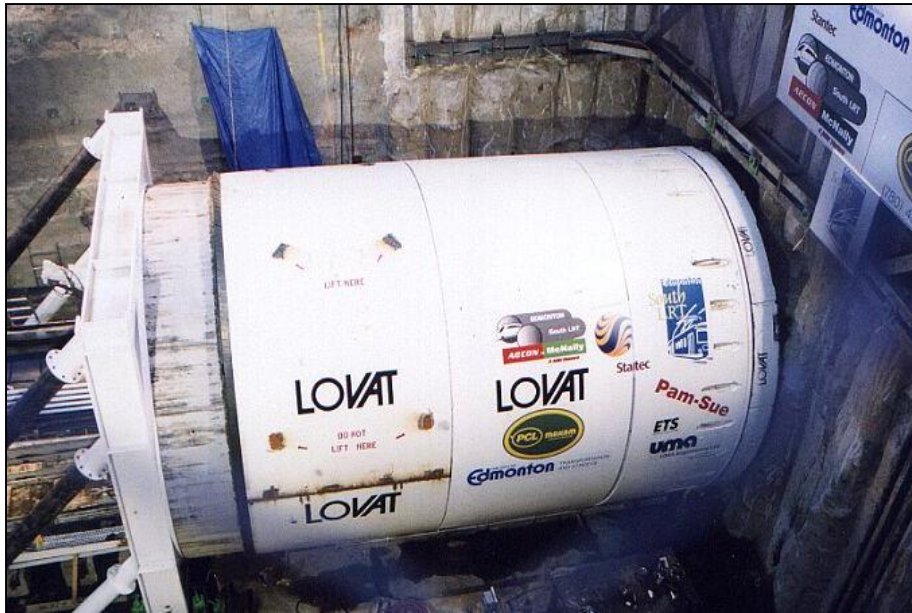
- **Canadas tunnelling industry is very dynamic and unique.**
- **The second largest country in the world, with a large variety of tunnelling conditions and challenges.**
- **Canada has a large underground mining industry, with consultants, contractors and specialists that straddle the line between mining and tunnelling which can lead to great innovations.**





TAC - YM

- After the 2013 WTC the TAC joined the initiative[★] to create Young Member groups.
- Appointed Nichole Boulton to the Board of Directors to start the group and encourage new members and students to join the TAC.



- No Canadian schools have any Tunnelling-specific programs – YMG is a good opportunity to raise interest and awareness of the industry.





TAC - YM



- Opportunities for site visits to new tunnel projects starting up in Vancouver.
- Large country – and spread out – will likely lead to a western and eastern chapter for the YMG.
- Still in early stages
 - ~20 members currently
 - event planning to start soon!



Examples – Norway

► Presenter:

Sindre Log (Robbins)

Communications

and Marketing Officer ITAYM

Chair NTSYM



Norwegian Tunneling Society
Young members



Norway

Norway is dominated by high mountains, deep fjords and challenging climate, causing tunnels and underground solution to be an essential tool to make transport possible.



Norway – The Tunneling Country

Norway have a significant amount of tunnels including:\

- 709 Railroad tunnels

- 1050 Road Tunnels

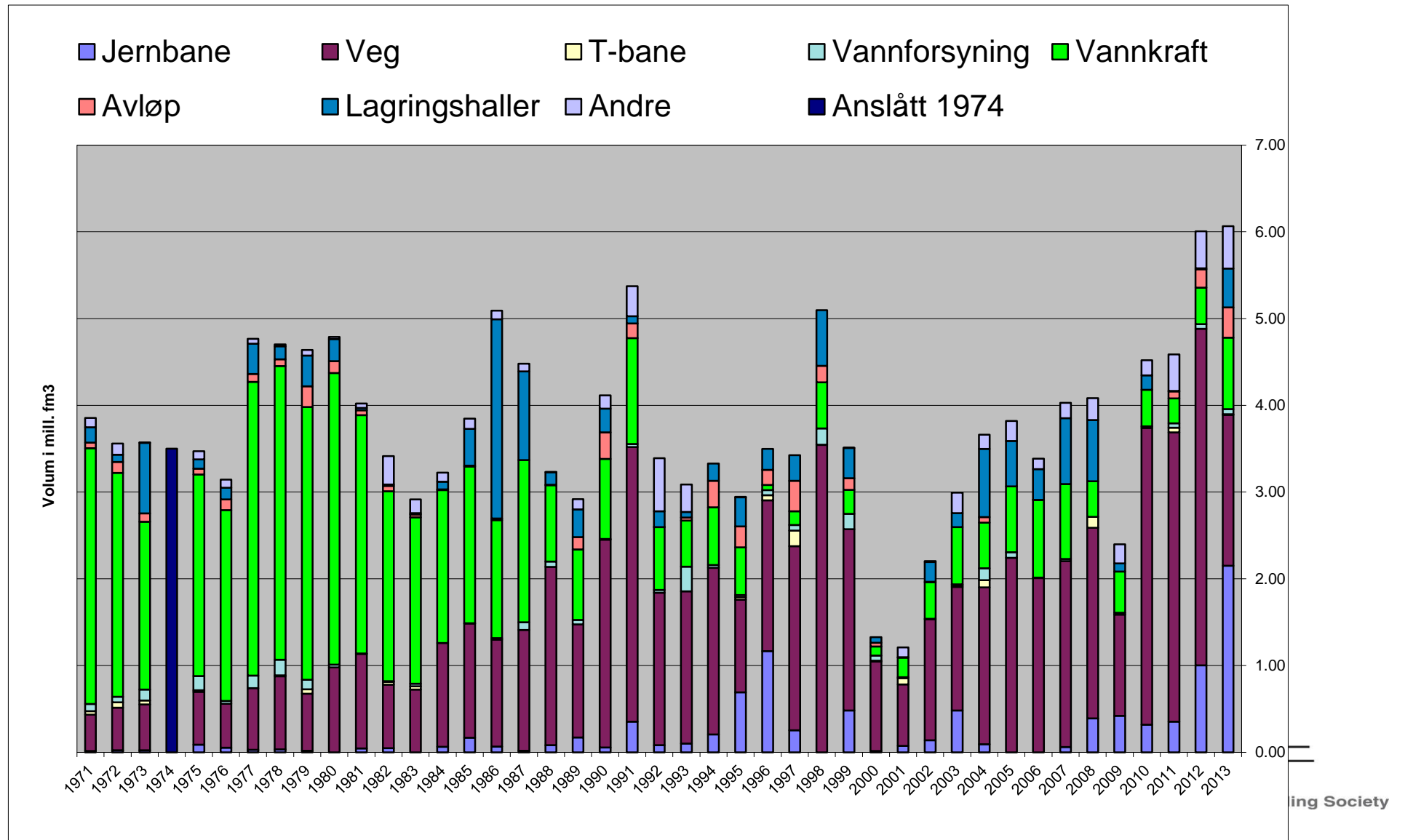
- 30 Subsea Road tunnels

- > 300 tunnels for hydropower

Resulting in more than 7,000,000 m of tunnel → More than one meter tunnel per inhabitant



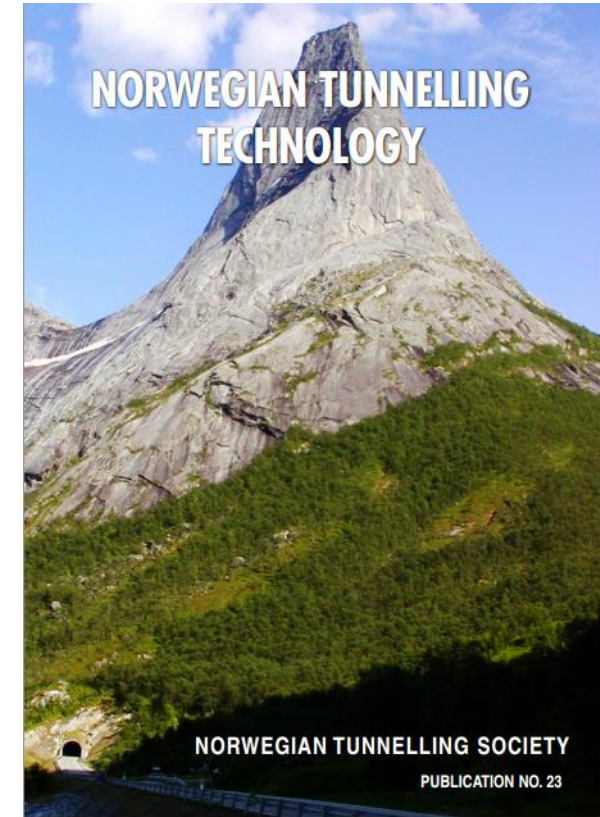
A bright Future



The Norwegian Tunneling Society

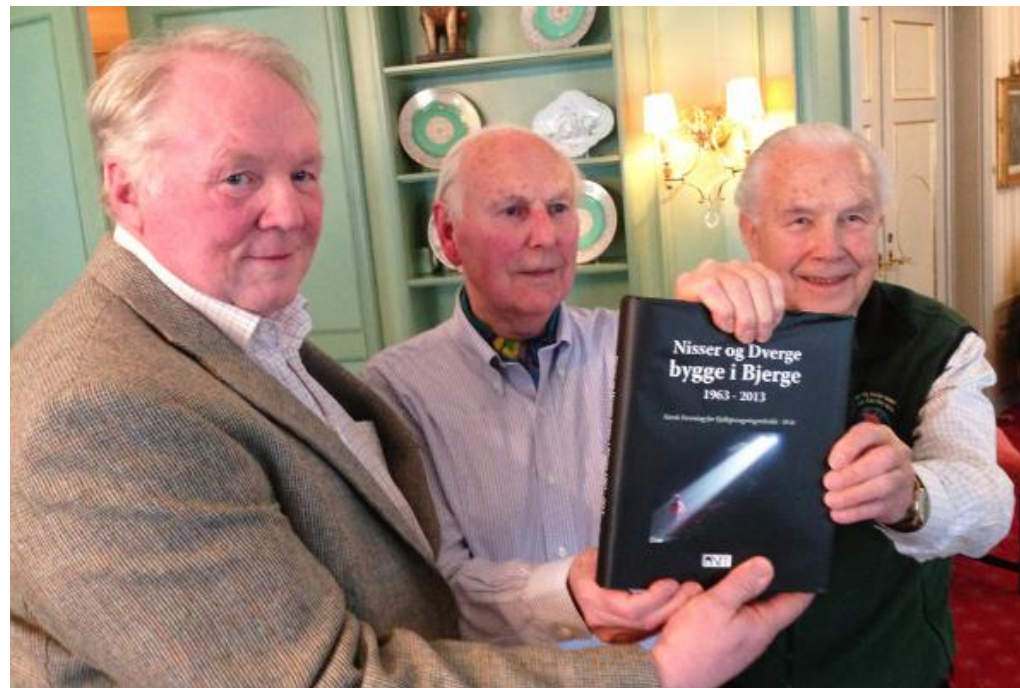
Established in 1963

- Very active with a significant amount of courses and gatherings every year
- Arranges the Norwegian tunneling conference every year in November with more than 900 participants
- Very active in ITA and applying for WTC 2017
- Among other publications they produce a yearly english publication series with one publication released on the WTC. This years publication is publication 23 «Norwegian Tunneling Technology»



Young members

- There is a big need for tunnelers in Norway and too few are being educated
- The Tunneling society is dominated by experienced engineers and reflects the lack of young people in the industry



Young members

- To help to get more young people to choose the tunneling industry and keep the ones that are already there, the NFF-Young members was set up in 2010.
- This was done on the initiative of the tunneling society and some young engineers.
- Supported from the top form the start!



NFF-Young members

The network is being led by a steering committee of 7 people, including 2 representatives from the Universities.

The steering committee meet on a regular basis and about 10 times per year to plan the activities

Young members is an integrated part of the tunneling society and have our own budgets.





NFF-Young members

Activities include the following:

- Yearly presentation of the industry at the Universities (80-100 Participants)
- One evening seminars on specific topics as rock caverns, tunnel boring machines, foreign contractors, The Q-method etc. 1-3 times a year (30-50 participants)
- Annual meeting with site visit the day before the Norwegian tunneling conference (40-60 Participants)
- Yearly 2-3 day excursion to visit multiple projects in a geographical area (15-30 Participants)
- Generic work to get more people to choose our industry

2014 Excursion to North of Norway

- Arranged the 2014 2 day excursion to Helgeland on the 5-6th May. The program included visits to:
 - Røssåga Hydropower project with the first TBM operating in Norway for 20 years and general presentation of the hydropower project, including station works.
 - Rana Iron mine with a yearly production of 3.7 million tons of iron ore
- Total of 32 participants



Conclusive remarks

The young members group is a established, integrated and popular part of the Norwegian tunneling Society

We are planning to extend activities to invite young members groups from other nations to our activities and to set up excursions abroad

Future looks bright!



Questions?

NFF-YM inspecting the deepest point on a subsea tunnel in the world (At least at the time)



Plans for 2014/2015

► Presenter:

Jurij Karlovšek

(University of Queensland)

Chair ITAYM

Chair ATSYM

Plans for 2014/2015

- Main objective

Organisation of International Tunnelling and
Underground Space Association Young Members
General Assembly at the World Tunnelling Congress
in Dubrovnik, **Croatia, 2015**

Plans for 2014/2015

- ▶ Activities:
- ▶ **Encourage and support member nations** in establishing national Young Members organisations,
- ▶ To make the practical preparations for an ITA Young Members **General Assembly at the WTC 2015**,
- ▶ Strengthen the **international network** between already existing Young Member organisations.



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HELP US TO MAKE IT HAPPEN

- ▶ Join us, to **enable the exchange of experience** and to build on the professional network,
- ▶ Join us, to **bridge the gap between generations** and embrace the opportunity to network across generations in the industry,
- ▶ Join us, for the **new and next generations**,
- ▶ Join us and have **a voice in the ITA**.

HELP US TO MAKE IT HAPPEN

- ▶ THANK YOU!
- ▶ We'll see you in large numbers at the ITA Young Members **General Assembly at the WTC 2015**, Dubrovnik, Croatia.

Acknowledgments

- ▶ Following people are responsible and thanked in creating ITA Young members and this presentation:
 - ▶ Petr Salak
 - ▶ Lasse Vester
 - ▶ Nichole Boulton
 - ▶ Sindre Log
 - ▶ Jurij Karlovšek

- ▶ Copyright ITAYM, WTC 2014 Iguazú, Brazil