

Time for the Future

A horizontal collage of six images: a blue and white abstract pattern of concentric circles, a server room with blue lighting, a close-up of a circuit board with a red and blue glow, a power line tower against a sunset sky, a blue and white abstract pattern of dots, and a man in a dark shirt looking at a server rack.

Welcome to ITSF 2014

Charles Curry BEng, CEng, FIET
Founder & MD Chronos Technology Ltd
Chairman ITSF Steering Group

ITSF 2014 – “Time for the Future”



- **Day1: 08:30-17:00**
 - Session 1: 08:30-11:45 **“Time to Learn” - Tutorials**
 - Session 2: 12:45-17:10 **“Time for the Future”**
 - Panel Session: 17:10-17:40
 - IceBreaker: 18:00

- **Day2: 08:30-16:45**
 - Session 3: 08:30-10:30 **“Time in Standards”**
 - Session 4: 11:00-16:45 **“Time to Apply” & Panel Session**
 - **ITSF AGM: 16:45-17:30**
 - TimeLord Dinner: 19:00

- **Day3: 08:55-16:30**
 - Session 5: 08:55-11:55 **“Time Under Threat - Vulnerabilities in sources, distribution and transport”**
 - Session 6: 12:45-16:30 **“Time in Distribution, Performance & Measurement”**

The ITSF Time Line – 2001-4

**ITSF 2001 - London
Royal Garden,
Kensington**



**ITSF 2004 - London
IEE, Savoy Place**



2001

2004

2005

2006

2007

2008

2009

2010

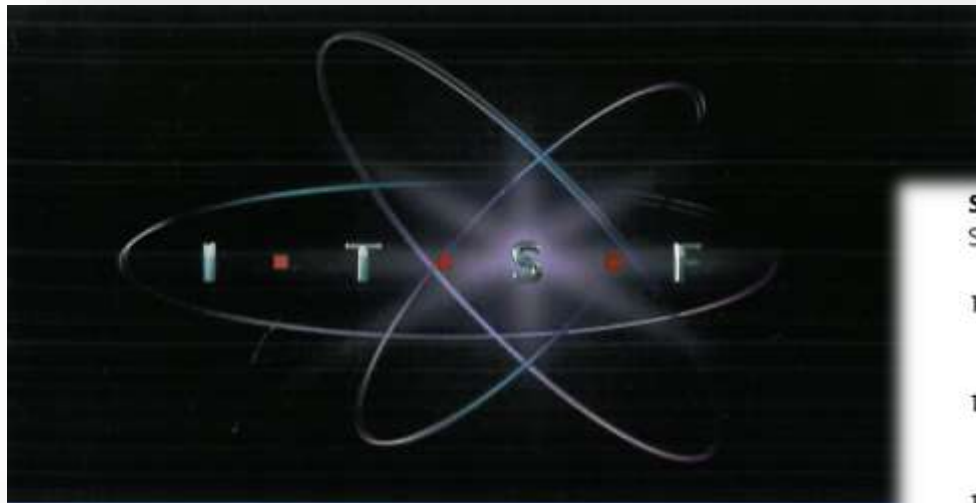
2011

2012

2013

2014

Remember Back to 2004!



ITSF 2004 The 2nd IEE International Telecommunications Synchronisation Forum

www.iee.org.uk

1 – 3 November 2004
IEE, Savoy Place, London, WC2R 0BL, UK

Technology Overview and Update Workshop:
Monday, 1 November 2004
Main Conference: Tuesday & Wednesday 2 & 3 November 2004

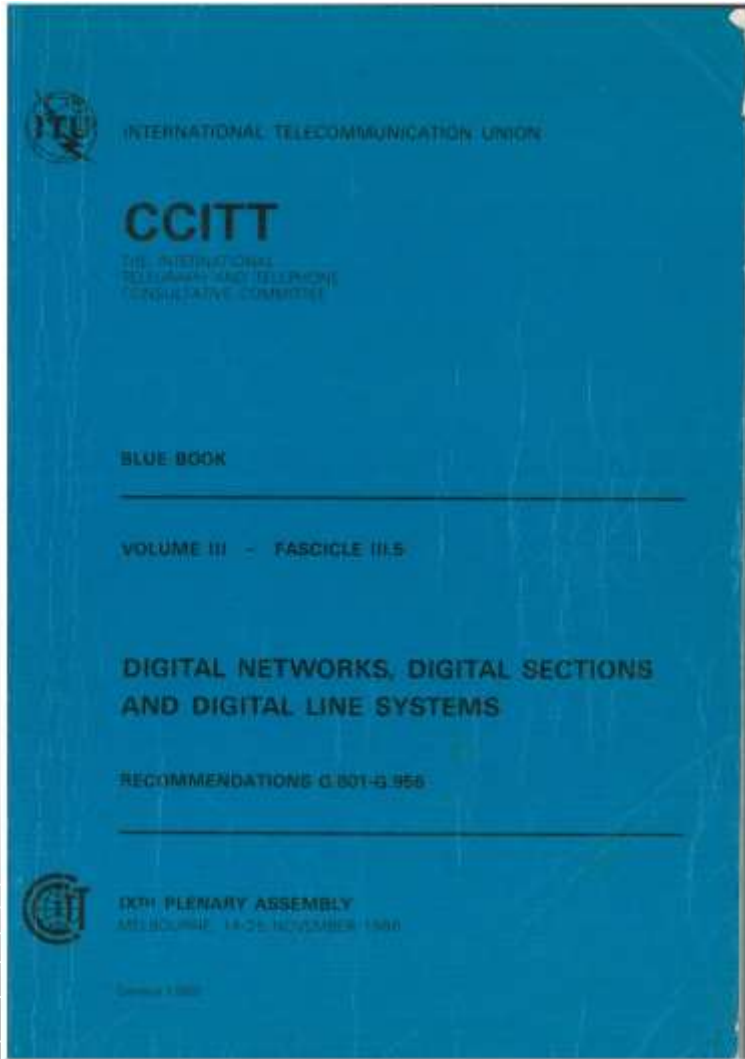
A 3-day papers driven telecoms industry forum and workshop, focusing on developments, techniques, issues, problems and solutions relating to synchronisation and timing applicable to the telecoms industry. The social programme includes a flight on the

Synchronisation for IP/Access Technologies and Applications Session

Session Chair: Phil Johnson, Easynet, UK

- 14:00 **Synchronisation for Improving VoIP Quality**
Jim Olsen, Symmetricom, USA
- 14:35 **Transporting Synchronization over Packet**
Motti Goren, Lycium Networks, Israel
- 15:10 **Recent Advances in IEEE 1588 Technology and Applications**
John Eidson, Agilent, USA
- 15:45 Refreshments
- 16:10 **An Overview of Synchronization over Packet Network**
Silvania Rodrigues, Zarlink Semiconductor, Canada
- 16:45 **Observations and Measurements of Sync Transport Access Technologies**
Charles Curry, Chronos Technology Ltd, UK

2004 - Sync World was simple!



Since 2004

15 New ITU Standards!
6 in progress
Amendments to others

Up to 80 Contributions
per SG15/Q13 meeting!

The ITSF Time Line – 2005-7

**ITSF 2005 - London
IEE, Savoy Place**



**ITSF 2006 – Prague
Corinthia Towers**

**ITSF 2007 – London
IEE, Savoy Place**



2001

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2012

2013

2014

The ITSF Time Line – 2008-10

ITSF 2008 – Munich
City Hilton



ITSF 2009 – Rome
Radisson Blu



ITSF 2010 – Dublin
The Shelbourne



The ITSF Time Line – 2011-13

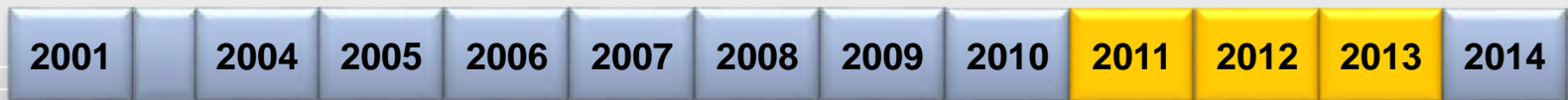
**ITSF 2011 – Edinburgh
Macdonald Roxburghe**



**ITSF 2013 – Lisbon
EPIC SANA**



**ITSF 2012 – Nice
Le Méridien**



What a Year!

- 2 Big names under new ownership
- 5G concepts emerging
- Quantum Clock technology research
- eLoran IOC for North Sea maritime
- GNSS Vulnerability hot topic
- Galileo threat to mandate
- New concept – the Chronos meter
 - = x3 Chronos nanoseconds

The ITSF Time Line – 2014

**ITSF 2014 – Budapest
Kempinski Hotel Corvinus**



**ITSF 2014 – TimeLord Award
Dinner – Sponsored by Calnex**

Gerhard Thanhäuser



**ITSF 2014 – IceBreaker
River Trip on Danube
sponsored by Oscilloquartz**

**ITSF 2014 – Welcome Drinks
sponsored by Semtech**

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House Rules

- Use House PC unless you have videos etc
- If your own PC, test it before the Session starts
- Speakers keep to time!
- No time for questions if less than 2 minutes left
- Clearly introduce yourself if asking questions
- Use roving microphone when asking questions

Thank You

- Speakers
- ITSF Steering Group

- Sponsors

- Diamond:



- Platinum:



- Gold:



- Avren Events