jct consultancy

14th & 15th September | Nottingham Trent University

THE 28th
JCT TRAFFIC
SIGNALS
SYMPOSIUM
AND EXHIBITION

2023 Sponsors

AGD
PRODUCT SOLUTIONS FOR
INTELLIGENT TRAFFIC SYSTEMS

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TRL Software

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YUNEX TRAFFIC

MOVA USERS GROUP
13TH SEPTEMBER

2023 Partners

Chris Kennett Consulting Limited
Traffic Signal Engineering

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Integrated Traffic Services Ltd

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YUNEX TRAFFIC

Make the most of our jct NETWORKING Opportunities

NETWORKING BARS
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BARBEQUE : WEDNESDAY 13TH SEPTEMBER
6.30PM — 8.00PM

Relaxed evening meal sponsored by **telent**

NETWORKING BAR : 13TH SEPTEMBER
6.30PM — 11.30PM

Complementary drinks all evening

DRINKS RECEPTION : 14TH SEPTEMBER
7.00PM — 7.30PM

Sparkling Wine and Soft Drinks

in the company of **swarco**

GALA DINNER : 14TH SEPTEMBER
7.30PM — 9.00PM

Three course white table cloth dinner
hosted by YUNEX TRAFFIC

NETWORKING BAR : 14TH SEPTEMBER
7.30PM — 11.30PM

Complementary drinks all evening

September 2023

→ Welcome address by John Nightingale – Director JCT

After a very successful and busy event in 2022 I am delighted to welcome you back to Nottingham Trent University for the 28th Traffic Signals Symposium and Exhibition. We have a first rate programme of papers, a bigger than ever exhibition and of course lots of opportunities to catch up with old friends and make new ones at our sponsored networking events.

The Symposium papers programme filled up very quickly this year which is a testament to the growing popularity of our event. Thank you to everyone who submitted a synopsis and well done to everyone who made it on to the programme. If you are thinking of submitting a paper for next year can I urge you to send us a working title and synopsis as soon as you can, this is easier than ever now with a simple contact form on our new dedicated Symposium website jctsymposium.co.uk. Making a contribution to the learned programme is a great way to share your experience and innovation and raise your profile so don't be shy, have a go.

The Exhibition with the Symposium is now in its twenty seventh year and there is again a strong showing from leading suppliers and manufacturers. Contributions from exhibitors are a key factor in allowing us to keep attendance fees affordable and the exhibitors have our sincere thanks. Refreshments and lunch will again be served in the exhibition itself giving delegates more time to see the exhibits and talk to suppliers.

Once again we are fortunate to have sponsorship from leading exhibitors. This year the sponsors are: AGD, ARTSM, IHE, ITS(UK), Messagemaker Displays, NAL, PTV, Simplifai, Smartmicro UK, SRL, Swarco, Telent, TRP, TRL Software and Yunex Traffic.

A consortium of exhibitors comprising ARTSM, JCT, NAL, SRL, Swarco and TRP, are sponsoring the bar on Wednesday and Thursday night.

●●● *Telent are sponsoring the Barbeque on Wednesday night.*

●●● *Yunex Traffic are sponsoring the Gala Dinner on Thursday evening.*

●●● *Swarco are sponsoring the Pre Dinner Drinks Reception on Thursday evening.*

●●● *TRL are sponsoring the Lunch and Refreshments on Thursday.*

●●● *ITS(UK) are sponsoring the Treasure Hunt.*

●●● *PTV are sponsoring the Lanyards.*

●●● *The IHE are judging and sponsoring the Prizes.*

●●● *Swarco are sponsoring this years goody bags.*

●●● *Our official Media Partner is Highways News.*

The IHE have also kindly agreed to recognise the Symposium as formal Continual Professional Development (CPD) this year and if you would like a CPD certificate simply pop along to the IHE exhibition stand and register for one.

This year's presentations will also be videod and made available for posterity on YouTube, this initiative is being delivered by Highways News and is kindly funded by a consortium consisting of: AGD, Messagemaker Displays, PTV, Simplifai Systems, smartmicro UK and TRL Software.

We would again like to express our appreciation for the generosity and support of the sponsors. If your organisation would be interested in sponsoring an element of next year's Symposium, please contact JCT.

Contact JCT

JCT Consultancy Ltd,
LinSig House, Deepdale Enterprise Park,
Deepdale Lane,
Nettleham, Lincoln,
Lincolnshire LN2 2LL

Tel 01522 751010
Email symposium@jctconsultancy.co.uk
Web jctsymposium.co.uk

ESSENTIAL INFO

Car Parking
NEW FOR 2023

Nottingham Conference Centre offer discounted parking at the nearby Q-Park Talbot Street Car Park, Stanley Place, NG1 5GG. NTU will no longer take payment for the discounted parking at their reception. Instead, they will issue a single use voucher on the day to any delegates that have parked at Talbot Street which will give you 45% off the standard car parking rates. The voucher is to be used at the pay stations in the car park before you exit. Alternatively, there are a number of other car parks in the city centre – **tiny.cc/nottspark2**.

Park and Ride

If you are attending the event as a day delegate, we recommend using one of Nottingham's Park and Ride services into the centre. There are several park and ride tram stops nearby (see below). The Phoenix Park park and ride site is close to J26 of the M1, the Queen's Drive park and ride is located just off the A453 and The Forest park and ride site is near to the city centre. Further details are available at **www. nottinghamcity.gov.uk/parkandride.**

Accommodation

If you have booked accommodation please check in at your chosen Nottingham City Centre hotel:

Premier Inn Goldsmith Street, NG1 5LT

Please note: Sat navs sometimes try to send people via Shakespeare Street which is now tram only - no cars. You should not continue to drive along Goldsmith Street past the front of the hotel as the road turns into a tram only zone. Driving in a tram only zone will result in a fine from Nottingham City Council. Car parking is available at the multi-storey Q-Park on Talbot Street (NG1 5GG).

Premier Inn Chapel Bar – 7 Chapel Quarter - NG1 6JS (Sat Nav Directions: NG1 6HG)

There is no on-site parking available at this hotel. Limited chargeable off-site parking is available at Euro Car Parks, Upper Parliament Street, NG1 6LD. This is a two-minute walk from the hotel. To access the car park please:

- Download the **ECPparkbuddy App** from Google Play or Apple Link
- Register an account

- Collect a discount code from the hotel reception
- Select time and pay

Alternative off-site parking is available a 8-10 min walk away at Maid Marion Way NCP (NG1 6AE) at £8.95 for 24 hours. Rooms are available from 15:00. Bedrooms must be vacated by 12 noon. Also, NCP Mount Street (NG1 6HG) is a one-minute walk and £19.95 for 24 hours.

MOVA Users Group

The MOVA Users Group is being held on Wednesday 13th September – the day before the Symposium. It will be held in Lecture Theatre 4 in the Newton Arkwright Building, upstairs on Level 1. Registration will be outside the room alongside a small exhibition from some of the MOVA Users Group Partners and will be accompanied with refreshments and breakfast pastries. Registration is between 10.00am and 10.30am and proceedings will start at 10.30am with the day ending at 16.30pm. The day is funded by the MOVA Users Group Partners: Chris Kennett Consulting, IHE, Integrated Traffic Services, PTV Group, SRL, JCT, Swarco, Telent, TRL Software and Yunex Traffic.

Symposium

Both the Symposium presentations and the Exhibition will take place in the Newton Arkwright Building. Registration for the Symposium will take place at the JCT exhibition stand on Level 0. The Symposium presentations will take place in Lecture Theatre 2 of the Newton Arkwright Building and will start at 09:15 prompt on Thursday 14th and will finish at

Gala Dinner Menu

Starter
Salad of baby gem, roast courgette, Feta cheese, grilled flatbread, apricot couscous and smoked paprika dressing (v)

Main
Fillet of pork with bubble and squeak, greens, baked apple, black pudding and a calvados cream sauce

Butternut, leek and green lentil Shepherd's pie topped with spring onion mash, served with fresh vegetables and gravy (v)

Dessert
Bramley apple crumble with blackberry sauce and vanilla bean ice cream (v)

Coffee

approximately 16:10 on Friday 15th September.

At registration, you will be given your name badge and meal ticket if you have booked for evening meals. Your name badge must be worn at all times in order to gain entry to the Symposium, Exhibition, Refreshments and to take advantage of the sponsored events as well as being a way to identify yourself to on-site security personnel.

Exhibition

We are once again holding an exhibition featuring selected key companies in the traffic signals field. The exhibition can be viewed during registration, refreshment and lunch times on Level 0 of the Newton Arkwright Building.

To encourage delegates to visit all the stands we will again be running a Treasure Hunt. The Treasure Hunt is kindly being sponsored by ITS(UK). *Completed treasure hunt forms should*

be returned to the ITS(UK) stand in the exhibition hall by the end of lunch on Friday 15th September.

Luggage Room
The venue has again offered us use of a luggage room. Please advise JCT if you wish to store any luggage and they will grant access.

Wireless Internet Access
A bespoke username and password to access the NCC Guest WiFi network will be available at the event. These details will appear around the venue and available from the JCT stand.

Meals
Lunch and refreshments for the MOVA Users Group Lunch and refreshments at the Symposium are included during the day. MOVA Users Group lunch will be provided outside Lecture Theatre 4 in the Newton Arkwright Building, upstairs on Level 1. Symposium lunches and refreshments will be provided in the Symposium Exhibition on Level 0 of the Newton Arkwright Building.
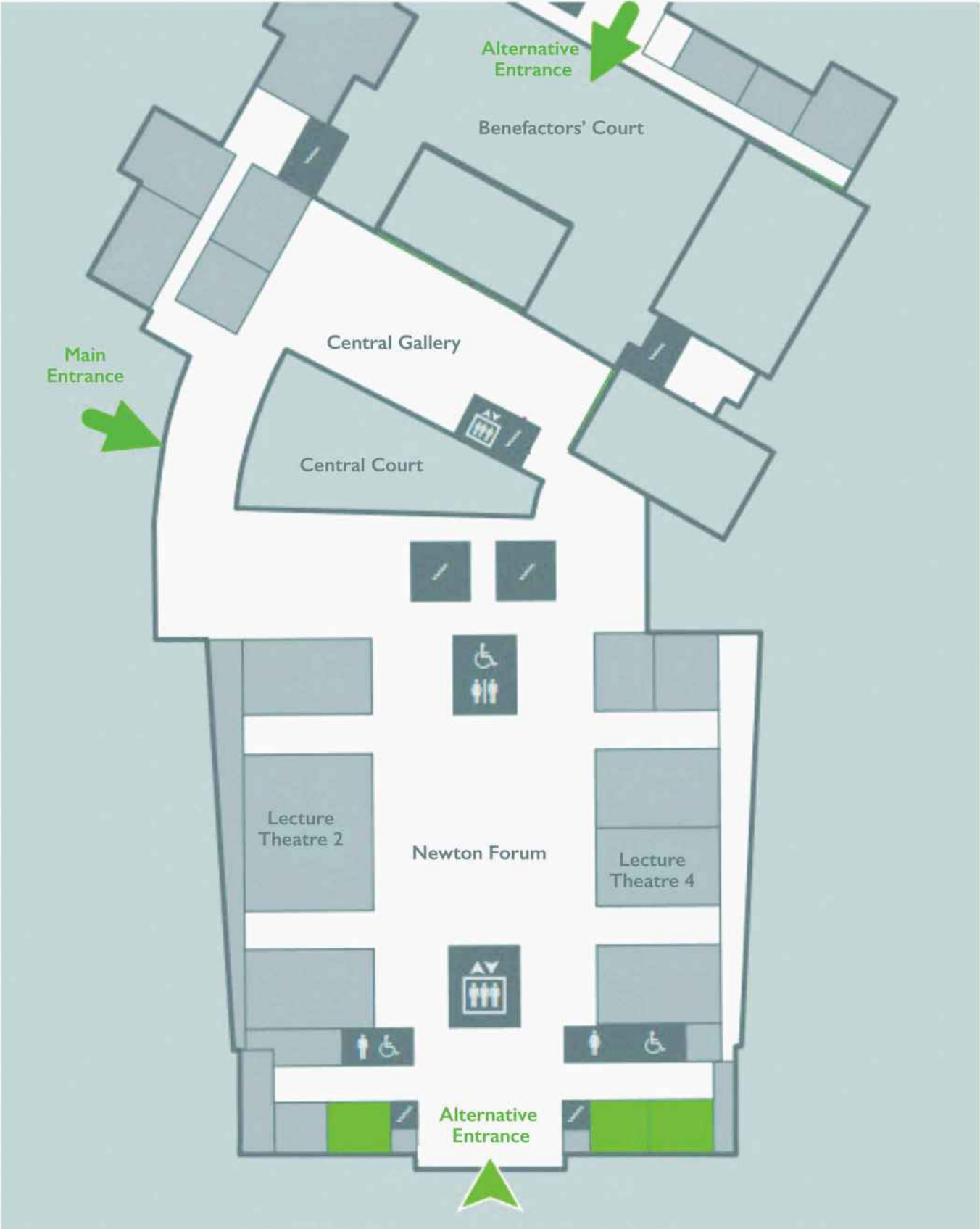
On Wednesday evening we will be holding a barbecue sponsored by Telent. This event will be held in The Old Chemistry Theatre or Benefactors Courtyard, weather permitting. There will be a bar sponsored by ARTSM, JCT, NAL, SRL, SWARCO, & TRP. The bar will be open from 19:00 and the food will be served from 19:30.

On Thursday evening Yunex Traffic will be sponsoring the Gala Dinner in Central Court. Again the bar will be sponsored by ARTSM, JCT, NAL, SRL, SWARCO and TRP. Prior to the Gala Dinner a drinks reception hosted by Swarco will be held in Central Court from 19:00, dinner will be served at 19:30. *There is no official dress code for the Gala Dinner.*

NTU FLOOR PLAN

Alternative Entrance

Benefactors' Court

Central Gallery

Main Entrance

Central Court

Lecture Theatre 2

Newton Forum

Lecture Theatre 4

Alternative Entrance

ITINERARY

JCT Symposium & MOVA Users Group 2023 – Itinerary
Nottingham Conference Centre / Nottingham Trent University

The itinerary of all the events during the Symposium and MOVA Users Group is given below.

Wednesday 13th September

10:00 – 10:30	**MOVA User Group Registration** & Coffee and Pastries Newton Forum Level 1
10:30 – 12:15	**MOVA User Group session 1** in Lecture Theatre 4
12:15 – 13:15	**Lunch and MOVA Exhibition** in Newton Forum Level 1
13:15 – 14:45	**MOVA User Group Session 2** in Lecture Theatre 4
14:45 – 15:05	**Refreshments and MOVA Exhibition** in Newton Forum Level 1
15:05 – 16:30	**MOVA User Group Session 3** in Lecture Theatre 4
19.00 – 23:30	**BBQ Evening Sponsored by Telent** in the **Benefactors' Court.**
	*Following the meal **the Bar will remain open and will be sponsored by: ARTSM, JCT, NAL, SRL, SWARCO, TRP**.*

Thursday 14th September

08:30 – 09:00	**Symposium Registration** in Newton Forum Level 0 at the JCT Stand
09:15 – 10:30	**Symposium Session 1** in Lecture Theatre 2
10:30 – 11:00	**Refreshments & Exhibition** in Newton Forum Level 0 **Refreshments Sponsor TRL**
11:00 – 12:30	**Symposium Session 2** in Lecture Theatre 2
12:30 – 14:00	**Buffet Lunch & Exhibition** in Newton Forum Level 0 **Lunch Sponsor TRL**
14:00 – 15:30	**Symposium Session 3** in Lecture Theatre 2
15:30 – 16:00	**Refreshments & Exhibition** in Newton Forum Level 0 **Refreshments Sponsor TRL**
16:00 – 17:25	**Symposium Session 4** in Lecture Theatre 2
19:00 – 19:30	**Reception Drinks Sponsored by Swarco** in the **Central Court.**
19:30 – 23:30	**Gala Dinner Sponsored by Yunex Traffic** in Central Court
	*Following the meal **the Bar will remain open and will be sponsored by: ARTSM, JCT, NAL, SRL, SWARCO, TRP**.*

Friday 15th September

08:30 – 09:00	**Symposium Registration** in Newton Forum Level 0 at the JCT Stand
09:15 – 10:30	**Symposium Session 5** in Lecture Theatre 2
10:30 – 11:00	**Refreshments & Exhibition** in Newton Forum Level 0
11:00 – 12:30	**Symposium Session 6** in Lecture Theatre 2
12:30 – 14:00	**Buffet Lunch & Exhibition** in Newton Forum Level 0
14:00 – 16:10	**Symposium Session 7** in Lecture Theatre 2

MOVA SPONSORS

A WARM WELCOME TO EACH one of you attending the MOVA Users Group once again at Nottingham Trent University.

From early days when the meetings were 6 monthly and purely user driven (and lets be honest often focused on why we couldn't get MOVA to work as well as we hoped!) the meetings have now evolved to being the curtain raiser for the JCT symposium with it now serving not only as an excellent platform to stay up-to-date with the latest operations and deployment on street in MOVA but one where we can foster collaboration and exchange knowledge.

The software is of course now very "stable" and "mature" and well established in the industry (does anyone still only install standard VA?) but whether you are a seasoned user or a curious newbie or here from one of our supporting partners, who I must again thank for ensuring we can provide the event free of charge, I hope the day provides you the opportunity to learn new "tricks" with the software and maybe just as importantly question old methods?

So use today as a platform to share YOUR knowledge, ideas, and experiences related to MOVA and its operation on street either as part of the many presentations, over Tea/Coffee (and cake!) and directly with each other and the partners at "pop up stands" at lunch time.

Thanks to all the users and partners presenting today for helping us put together the largest program we've ever been able to assemble (hopefully we'll sort of finish on time !) and if you find the presentations enjoyable and informative, I encourage you to consider contributing something yourself next year. This event thrives on the collective expertise and enthusiasm of its participants, and we'd love to have even more diverse insights and experiences in the future.

Tony Sharp

2023 MOVA Users Group
PROGRAMME
Wednesday 13th September 2023

Registration **10.00 – 10.30**   Tea/coffee and breakfast pastries

Session 1 **10.30 – 12:15**   **Chair - Tony Sharp**

Introduction and review of MOVA Users Group 2022.
Tony Sharp – MUG Chair & John Nightingale - JCT

User Presentation: My Journey With MOVA
Rebecca Bollen – 4way Consulting

Partner Presentation: TRL Software
Mark Crabtree – TRL

User Presentation: Construction Traffic Control with MOVA
Chris Davis & Mark Crother – Modelling Group

Partner Presentation: PTV Group
Devrim Kara – PTV

Pre-lunch sign off
Tony Sharp – MUG Chair

Lunch **12.15 – 13.15**   Hot Buffet Lunch

Session 2 **13.15 – 14.45**   **Chair - Tony Sharp**

Welcome Back
Tony Sharp – MOVA Users Group Chair

Partner Presentation: Integrated Traffic Services
Dan Preece – ITS

Partner Presentation: SWARCO
John Ball - SWARCO

User Presentation: MOVA Linking : Avoiding Node Dominance and Achieving Balanced Control
Sam Oldfield - WSP

Partner Presentation: Yunex Traffic
Martin Andrews – Yunex Traffic

Break **14.45 – 15.05**   Tea and Cake

Session 3 **15.05– 16.30**   **Chair - Tony Sharp**

Partner Presentation: Chris Kennett Consulting
Chris Kennett - CKC

Partner Presentation: Telent
Iain Ross - Telent

Partner Presentation: SRL
Max Thorley & Gordon Stitt - SRL

Closing address
Tony Sharp – MUG Chair

Close **16.30**

PROGRAMME | MOVA USERS GROUP

Our 2023 Symposium sponsors

telent
Sponsoring barbecue meal
on Wednesday evening

swarco
Sponsoring goodie bags

PTV GROUP
Sponsoring lanyards

artsm
ASSOCIATION FOR ROAD TRAFFIC SAFETY AND MANAGEMENT

jct training software consultancy
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NAL
A **CRH** COMPANY

SRL traffic systems

swarco
Sponsoring our bar on
Wednesday and Thursday evening

trp Products (UK) Ltd.

swarco
Sponsoring drinks reception
on Thursday evening

YUNEX TRAFFIC
Sponsoring the
Gala Dinner

TRL Software
Sponsoring lunch and
refreshments on Thursday

IHE INSTITUTE OF HIGHWAY ENGINEERS
Sponsoring our prizes
and providing judges

Intelligent Transport Systems UK
Empowering Transport Technology
Sponsoring the
Treasure Hunt

Highways News
Our media partner

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Funding of the video production

Thank you to all our sponsors

28th Annual Traffic Signal Symposium
PROGRAMME – Day 1 :
Thursday 14th September 2023

PROGRAMME | DAY ONE

Session 1   09.15 – 10.30   Chair - Paul Hutton – Highways News

Welcome & Introduction.
John Nightingale – JCT Consultancy

Distracted Driving - the new Drink Driving?
Geoff Collins – Acusensus

Adaptive control for today's road users - real life deployments, real life learnings.
James Snowdon - Yunex Traffic

The role of Intelligent Transport Systems in enhancing efficiencies and creating a more connected transport network throughout Derbyshire.
Andrea Newman - SWARCO & David Hilton Barber - Derbyshire County Council

Break and an opportunity to browse the exhibition area

Session 2   11.00 – 12:30   Chair - Darren Capes – Department For Transport

Address from the session chair on the work of the Transport Technology Forum and DCIS.
Darren Capes - DfT

KEYNOTE ADDRESS : Transport for Humans (are we nearly there yet?)
Rory Sutherland – Ogilvy & Pete Dyson – University of Bath

Lunch and an opportunity to browse the exhibition area

Session 3   14.00 – 15:30   Chair - Mike Guerin - SWARCO

MOVA User Group Update.
Tony Sharp – MOVA Users Group Chair

Improving Urban Traffic Control with live multimodal data in Leeds.
Joel Dodsworth – Leeds City Council & Daniel Chambers - VivaCity

A pathway to fully connected services.
Suku Phull – Department for Transport

Digital Data for Traffic Signal Controllers – DCIS, the Digital Controller Information Standard.
Mark Pleydell – PTC & Peter Routledge - IRC

Overcoming the challenges of bridge mounted detection – A48 Briton Ferry bridge, South Wales.
Charlie Eccleson – smartmicro UK

Break and an opportunity to browse the exhibition area

Session 4   16.00– 17.10   Chair - Jennie Martin MBE – Trustee PACTS

Update to TfL Model Auditing Process.
Lucy Beeston & Robert Blewitt - Transport for London

Identifying how to effectively plan and manage Intelligent Transport System assets, to enable innovation.
Emily Madsen - Staffordshire County Council

Signalling the end of temporary traffic management?
Andy Marson - Yunex Traffic

Day 1 closing address
John Nightingale – JCT Consultancy

Close

Our video sponsors

YouTube

Symposium Playlist 2022

Symposium Playlist 2021

Symposium Playlist 2020

WE LIKE TO MAKE THE CONTENT of our Symposium available to the widest audience possible including our overseas friends and colleagues. We do this by making the papers downloadable and when possible videoing the presentations.

There are now over 300 past papers available to view and a significant number of videos of presentations from past symposia to view on our dedicated YouTube Channel.

We cannot do this without the kind permission from our authors and the very generous funding from a consortium of exhibitors.

To access the downloadable papers simply visit our symposium website and to view the videos visit our YouTube Channel playlists.

Funding the video production are AGD, Messagemaker Displays, Simplifai Systems, smartmicro UK, PTV Group, TRL Software.

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Messagemaker Displays

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smartmicro UK
SMART MICROWAVE SENSORS

TRL Software

PROGRAMME | DAY TWO

28th Annual Traffic Signal Symposium
PROGRAMME – Day 2 :
Friday 15th September 2023

Session 5   09.15 – 10.30   Chair - Mark Pleydell – PTC

A traffic signal compendium of interesting things from three recent projects.
Tom Siddall – 4way Consulting

The A45 Chowns Mill 'throughabout, half-hamburger, walnut whip, moon and sun' roundabout.
Mark Roxburgh - National Highways

Edgbaston Tram Extension - Hagley Road Terminus.
Shane Collins & Dave Manning 4way Consulting

Break and an opportunity to browse the exhibition area

Session 6   11:00 – 12.30   Chair - Paula Claytonsmith - LCRIG

Sustainability 101 - Helping to realise your net zero targets.
Ian McDonald – Hydro

How we help buses – the RARR Process.
Michael Bloomfield – Transport for London

Developments in Pedestrian Metrics and their use in the Optimisation of Signalised Crossings.
Andrew Caleya Chetty - Starling Technologies Ltd

The Tortoise and The Hare: Modelling road user micro-journeys to determine accurate Intergreen times.
Darren Hudson - Traffic Group Technology

Lunch and an opportunity to browse the exhibition area

Session 7   14:00 – 16:10   Chair - Margaret Bell CBE – Newcastle University

When is a cycle gate, not a cycle gate?
Ashley Newnham - WSP

One eye on Preston – Lancashire's first CYCLOPS.
Michael Breathwick & Amardeep Sandhu – Atkins

Every journey starts with a walk.
Neil Rhoods -TRL

Squaring the Circle - Designing High Quality Cycling, While Adding Traffic Capacity.
Chris Kennett – CKC

Traffic Control in Greater Manchester; Where We Are and Where We Go Next.
Chris Small - TfGM

Prizes
Institute of Highway Engineers
TBC - IHE

Closing address
John Nightingale - JCT

Close

JCT Consultancy - Course Diary

Autumn 2023 Traffic Signals Training

Course	Date & duration	Venue	Price (excl.VAT)
October 2023			
Introduction to Traffic Signals	2 days, from Tuesday 10th October 2023	*ONLINE*	£ 555
Checking LinSig, Arcady & Picady Models	1 day, from Thursday 12th October 2023	*ONLINE*	£ 325
LinSig3 Signalled Roundabout Design	1 day, from Friday 13th October 2023	*ONLINE*	£ 325
November 2023			
Introduction to Traffic Signals	2 days, from Monday 6th November 2023	*Peterborough*	£ 625
Practical Application of MOVA including the use of MOVA tools and MOVA Simulation Computer workshop	3 days, from Monday 6th November 2023	*Peterborough*	£ 1,150
LinSig3 Junction Modelling Computer workshop	2 days from Wednesday 8th November 2023	*Peterborough*	£ 650
Basic Introduction to Traffic Signals for SCATS based regions	1 day from Tuesday 14th November 2023	*ONLINE*	€ 390
LinSig3 Junction Modelling Computer workshop	2 days from Tuesday 21st November 2023	*ONLINE*	£ 575
Self-paced / Remote Learning courses – Anytime for a 30 day period			
UTC SCOOT Foundation Course	30 day period	*ONLINE / Remote*	£ 950
TMS SCOOT Foundation Course	30 day period	*ONLINE / Remote*	£ 950

Full details, updates and online reservations are at www.jctconsultancy.co.uk/training
or telephone 01522 751010 or email courses@jctconsultancy.co.uk

DIRECTORY

AGD Systems

AGD makes easy-to-integrate, globally compatible ITS product solutions designed to help create safer, greener, more efficient traffic and transport environments.

AGD is one of the UK's most successful manufacturers of ITS products, delivering solutions for Smart Cities, Smart Highways and strategic transport initiatives around the world. With strategic ITS thinking strengthened by 25 years of practical implementations, AGD's product solutions are engineered for real-world integration and dynamic future applications.

Working closely with system and product integrators, national road authorities and traffic engineers, AGD develops solutions that fit today's needs and tomorrow's challenges across urban and inter-urban settings.

ARTSM

ARTSM is the trade body representing manufacturers, service providers and consultants in the field of traffic signals and control, VMS and fixed plate signs and ancillary roadside products. We provide expertise in all these areas and sit on many standards bodies for this purpose to ensure that safety is paramount and work collaboratively as an industry.

TOPAS is an open specifications body providing technical specifications for traffic control and signs. These specifications provide functionality requirements for the UK to enable interoperability and consistency across the SRN and LRN infrastructure.

Austar

Austar Lighting is a leading traffic signal manufacturer based in Shanghai, China. After over two decades of success in the domestic market, we are now seeking to expand overseas, and are targeting the UK and EU markets.

We offer a range of LED lighting products, from all kinds of traditional signal heads to VMS and various innovative traffic management solutions.

Coeval

Coeval offers various technical solutions for speed, hazard, safety, parking and over-height requirements for both the private and public sector. Coeval will work with you and our supply chain partners to reach a solution that resolves your specific problem. We actively share our 35 years plus experience in electronics, manufacturing and maintenance with our clients.

We offer system training, giving you the knowledge to manage and maintain your assets in-house, with confidence that Coeval will remain on hand to support.

Drakewell

Drakewell provide software and engineering services for traffic and active travel professionals.

Our modular C2-Cloud suite provides market leading web-based, securely hosted software solutions to cities, counties, departments of transport and consultants around the world, handling any data type.

Comprehensive data insights are provided in C2-Cloud via comprehensive data analytics (reports/charts/dashboards), journey time, live traffic vs baseline for congestion or incident management, turning movements, automated data validation (QC), asset and field operations management (inc. Field Apps), emissions, speed/weight violation and public interfaces.

Our Engineering team can install, commission, test and maintain any equipment on your highway network.

Hydro - Pole Products

Pole Products uses extruded profiles to manufacture aluminium light poles, flagpoles, traffic regulation installations and other structures in the area of infrastructure.

Since the 1960s, Pole Products has been active in developing sustainable solutions for public spaces. This history of experience, makes Pole Products a reliable partner in the markets in which we operate.

We deliver our products worldwide from Drunen. Keeping in mind your specific needs, we would like to contribute toward making your cities more beautiful and the development of your urban heritage.

Together with you, we convert ideas into sustainable, beautiful and smart aluminium solutions. Technical expertise, passion for aluminium, eye for design, attention to the environment and safety, are the foundation of our products. Are you responsible for the realization of a smarter and greener city, council or rail infrastructure and you want optimal use of infrastructure and energy?

Please contact us to discuss how we can help you to design, maintain or select the right poles for your environment.

IHE

The Institute of Highways Engineers represents you and your profession by protecting and advancing your career and through active participation on an impressive range of national professional and industry bodies.

The Institute of Highway Engineers promotes and help engineers and technicians at all

levels in highways, traffic, and transportation to achieve and to maintain the highest standards of professional competence.
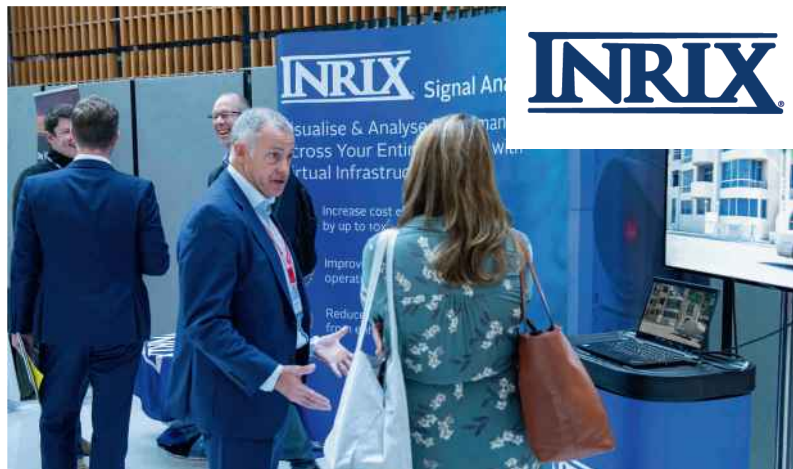
The Institute provides professional leadership and development by

sharing knowledge and standards based on integrity, fairness, and quality. We help all practitioners to maintain and improve the highway environment so as to deliver a safe, sustainable transport system.

Our Professional Review procedures are welcoming, and we'll guide and give you every help to get Engineering Council registration.

INRIX

INRIX provides a leading on-demand analytics platform for making data-driven decisions and managing mobility to keep the world moving greener, safer and smarter. By empowering cities, businesses, and people with valuable insights, INRIX is helping to improve mobility from the first mile to the last.

ITS (UK)

ITS (UK) is the industry association for the transport technology sector. We provide a national platform to support the roll out of technology for a cleaner, safer and more effective transport network, both at home and abroad.

We support our 160+ members – from both the private and public sector, and covering all sizes and disciplines – through advocacy to policy makers, connecting people and organisations, promoting the industry overseas and supporting innovation across the intelligent transport ecosystem.

JCT Consultancy

JCT Consultancy Ltd was formed in the 1980s to develop and market the LinSig software package for Traffic Signal Design and to provide specialist traffic signal related consultancy advice to local authorities, consultants and central government.

Since then further traffic engineering software products have been developed, and a comprehensive programme of training courses has been set up both to support the software and to teach general traffic signal design techniques. Still based in the historic City of Lincoln, JCT now employ a team of traffic engineers and software engineers who combine to provide world-class engineering services.

LCRIG

The **Local Council Roads Innovation Group (LCRIG** provides a unique platform for members to engage, providing a vital link between central and local government, supply chain and the wider highways community to ensure ongoing improvements in the highways sector.

LCRIG has a membership base of over 100 local authorities and over 140 supply chain organisations. As local authorities continue to face funding challenges, LCRIG offers support to members by facilitating collaboration which ultimately helps to stimulate investment in innovation and technology solutions.

The Transport Technology Forum (TTF) exists to support Local Authorities in the delivery of road transport technology to create a more prosperous and greener Britain. The TTF bridges the gap between national and local government, suppliers and academia to ensure we use technology to deliver the future of mobility most effectively. It aims to ensure that the sector understands the Government's policy aims and objectives.

Messagemaker Displays

Messagemaker Displays is one of the UK's leading suppliers of LED traffic signage solutions. The diverse range of road safety signs includes both fixed and mobile VMS along with a host of vehicle-activated speed signs, warning and informational signs. A partnership with Messagemaker Displays is based around collaboration, flexibility, and innovation to ensure the best possible outcome is achieved.

NAL Ltd

Welcome to the world of **NAL**, where innovation and efficiency converge to revolutionize the way, we approach infrastructure. As a specialist manufacturer and supplier, we have dedicated ourselves to simplifying and streamlining the installation and maintenance processes involved in traffic signal installations.

We are delighted to be showcasing our latest innovation the LIFTlock which makes access safe and easy.

NAL

A CRH COMPANY

NOW Wireless

NOW Wireless has been providing city networking infrastructure and smart city development since 2002, with equipment in over 42 towns and cities across the UK, and over 24,000 connected devices.

Mesh5G, a high bandwidth communications system to on-street devices using 5GHz spectrum. AI-based Air Quality monitors developed to last upto 5 years. Advanced AI video analytics with our, or any, CCTV. Features such as vehicle classification and pedestrian counting, along with predictive modelling.

Bluetooth and WiFi-based vehicle and pedestrian trackers for journey and route analysis.

Data from these devices can be analysed, viewed and exported over the SenseView platform.

P Ducker Systems

P. Ducker Systems (PDS) are leading UK transportation systems integration specialists with 34 years of experience in providing innovative turnkey solutions and on-going support for both refurbishment and new build projects.

We have extensive design and implementation experience and pride ourselves on working closely with our clients to achieve successful, timely and cost-effective projects.

Much of our work has been on the Strategic Road network, however in recent years we have grown and successfully delivered Intelligent Transport Systems for numerous Local Authorities. Our non-proprietary solutions integrate market leading technologies and products to help solve the latest challenges in air quality, congestion, mobility management, active travel, weather and surface condition monitoring.

Please visit our stand to discuss our solutions and how we can help with your transport challenges.

PTV Group

PTV Group is a market leader in the development of transport planning, traffic engineering and logistics planning and optimisation software worldwide. The solutions of PTV Group are cutting-edge and state-of-the-art and our clients apply our software on innovative and sustainable projects and designs. Customers in over 120 countries and 2,500 cities rely on PTV software that enable planners, engineers and decision-makers to improve the transport networks and spaces, reduce congestion and emissions, improve safety and protect the environment.

RTEM

RTEM, established in 2006, dedicated to providing innovative ITS solutions including:

SP4-C traffic signals cards (in operation since 2012)
- Certified to use in any new or legacy traffic controllers
- Directly replaces the existing detector card to provide selective vehicle detection
- Bus priority & priority scheme performance monitoring
- Supports bus hurry call for MOVA-8 +

AI camera
- Multi modal classification

(pedestrian – cycles – vehicles) Secure Multi-user dashboard incorporating:
- Asset management
- Data and fault visualisation
- Remote Monitoring Systems

Data Platform
- Xml stream to UTMC (Stratos – Osprey – Adaptor Logic)
- Data and fault reports via email and Ftp

smartmicro UK

smartmicro designs, develops and manufactures radar solutions for traffic management and automotive purposes.

For more than 24 years we have been the leading specialist in high performance radar technology.

Our key motivation for providing highest performance and highest quality automotive and traffic management radar sensors is to make roads safer, to optimize traffic flow for reduced travel times and to enable greener, smarter cities.

Seoul Robotics

Seoul Robotics is transforming the traffic signal industry. The company's 3D perception platform, using deep learning AI, delivers unparalleled insights to improve intersection management and ensure pedestrian safety.

The company's core technology SENSR creates accurate 3D models of the world in real time and provides unrivalled object detection, classification and tracking of pedestrians, vehicles and bicycles.

The sensor-agnostic, patented computer vision software collects non-biometric data of 500+ objects simultaneously, with an accuracy range of 4 cm, even in the harshest of weather conditions.

Simplifai

Simplifai Systems apply Artificial Intelligence (AI) to solve Smart City issues.

Simplifai work with the University of Huddersfield to apply the principles of autonomic computing, developed to manage Internet of Things (IoT) technologies in a self-regulating and resilient manner. As Authorities adapt to changing human activity patterns, such as reductions in commuting traffic, increased working from home, and increased use of active travel, local and national authorities require new tools that enable them to implement more flexible and policy-responsive traffic management strategies that are better joined up across regions.

SRL Traffic Systems

With +30 depots across the UK & Ireland, **SRL Traffic Systems** offer unrivalled network coverage and service levels to support our industry leading products.

SRL offer a host of temporary traffic management solutions including: traffic signals and pedestrian systems, not forgetting our unique new Multiphase Adaptive Detection System, colour mobile VMS, portable UTMC, 360⁰ CCTV and the innovative portable security barrier, Instaboom.

Finally, our pioneering intelligent temporary system Urban64®, is the first and only standalone temporary traffic light solution to feature permanent technology, enabling site bespoke layouts for the safe flow of vehicles, cyclists and pedestrian traffic during construction phases.

Starling Technologies

Starling aims to revolutionise pedestrian safety at pedestrian crossings by reducing the risk of accidents and near-misses. We want pedestrians, vehicles, and cyclists to safely and efficiently share the street and the road, making towns and cities safer and more attractive for all.

Starling prioritises the safety of pedestrians to make our towns and cities safer and more positive places. We aim to reduce the number of accidents and near misses by creating a more efficient traffic flow and pedestrians.

This provides the owners and operators of our cities and towns and their amenities with safer streets and public spaces.

The Starling product suite consists of:
- *Starling Intelligence* - a real-time and playback road user analysis
- *Starling Detector* - a smart kerbside detection with pedestrian data capture for signalised crossings
- *Starling Control* - an AI powered dynamic signal controller, utilising real-time analysis, decisioning and actuation of traffic signalling systems.

Swarco

SWARCO provide end-to-end technology solutions that enable local authorities to effectively and sustainably control both urban and inter-urban traffic in their towns and cities, ensuring enhanced road safety and improved traffic flow without the need for significant infrastructure changes.

Come and find us at stand A2 where we will be promoting the latest in our integrated portfolio of Traffic Management and Intelligent Transport Systems.

Teledyne FLIR

At **Teledyne FLIR** we see things a little differently. We are constantly looking at new ways to enhance the safety and efficiency of cities around the world and protect our vulnerable road users through ground-breaking innovation and advanced technological excellence.

This way of thinking has led us to find solutions that take care of road systems, and most importantly, take care of the people using them. Visit our stand where we will showcase our intelligent transportation and public safety solutions including the latest artificial intelligence developments and explain how Teledyne's vision technology is being used throughout our streets to tackle urban mobility and sustainability challenges head-on.

Telent Technology Services

Keeping the UK moving, **Telent** has been delivering intelligent transport solutions and network maintenance for over 30 years. Telent is a leading technology company and specialist in the design, build, support and management of the UK's critical digital infrastructure, drawing on decades of experience in mission critical communications and technology. With increasingly complex transport systems, our product and service offerings provide complete intelligent solutions.

Our responsive approach to our customers is key in an age where users expect seamless communication, regardless of the technology employed.

Traffic Group Signals

Traffic Group Signals design and manufacture the traffic management industry's most advanced portable and temporary traffic signal solutions.

We are the only signal manufacturer to be recognised with the Queen's Award for Innovation, which we received in 2016 for our ground-breaking Evo Multi series of controllers.

Since then we continue to lead the industry with our technology, with patented solutions such as AutoGreen, wireless UTC integration and Active Channel Management.

Our sophisticated Evo1 and Metro systems reduce the carbon impact of temporary traffic management through advanced stage-based signalling capability, redefining what is possible with wireless temporary signals.

TRL Software

TRL Software is the world's leading traffic management solution provider, powering over 400 cities globally; keeping roads flowing, making them safer, reducing congestion and helping to deliver on clean air targets.

Our software solutions, which are built upon cutting edge research, have been validated worldwide.

From the design of junctions, through to real-time adaptive traffic control solutions, how can we help you?

TRP Products

At **TRP Products** we have always endeavoured to bring innovation to the traffic industry. We always strive to be flexible for our customers, and are able to work on new designs for any requirements. We carry large stocks of our popular products, and can also do bespoke work with fast turn-arounds. As well as in-house fabrications, our close contact with local companies mean any product, in any material can be supplied in a totally finished state, labelled, packaged and couriered to the customers door.

Services we offer: injection moulding, Tool making, Laser cutting, Assembly work, Vinyl printing, Fabrication, Wide format printing, Tube bending, Electrical assembly, HAAS CNC turning lathe, HAAS CNC milling machine and 3D printing.

TWM Traffic Control Systems

Established in 2002, **TWM** are UK manufactures ITS hardware and solutions.

Specialising in electronic signage and road safety equipment, we continuously developing our interconnectivity into the wider transport networks and systems across the globe. Following the acquisition of the Urban and Tunnel sector IPR from VMS Limited, the expansion of the technical department with the VMS Limited team and the success of the Tay Road Bridge Upgrade project, we are making progress into the growth of our ITS capabilities.
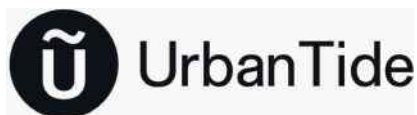
Providers to local authorities, transport network operators, contractors, or End Users clients; TWM's continuous innovation ensures they stay at the forefront of their market, whilst supporting safer highways and development of ITS. www.minimatrix.co.uk is a market leading example.

Product development and investment in our people are all part of the process as we strive to create 'Best in Class' solutions and services for our clients.

Urban Tide

At **Urban Tide** our mission is to make a sustainable world with AI. We help organisations unlock data and utilise AI for good.

Our uMove platform integrates a range of traffic data and uses AI analysis to predict future traffic trends and better understand transport usage. This creates a centralised evidence base organisations can use to inform transport infrastructure planning, monitor transport trends and emissions and improve cycling routes.

We host strategic modelling data including traffic data and do not own the data, allowing for access internally and externally. Our goal is to help provide sustainable transport for everyone.

VivaCity

At **VivaCity**, we help cities overcome their biggest transport challenges. We have developed cutting edge AI-powered computer vision technology to capture anonymised multimodal road user data and provide cities with the most accurate, reliable, and scalable insights.

VivaCity's Smart Signal Control solution integrates multimodal transport data into existing UTC systems to enable highly efficient operation in response to real-time demand and behaviours, including improving road safety by prioritising active travel modes upon their approach to the junction or crossing.

Our technology is here to solve endemic problems and help cities achieve their policy goals and transport objectives.

Westcotec

Westcotec design, manufacture and install a range of innovative products for intelligent traffic safety and smart city solutions. Founded in 2001 have become one of the largest suppliers of electronic signage in the UK. All 'Made In Britain' products are manufactured in Headquarters in Norfolk.

The majority of products manufactured now include sensor-based technology to give road users a more specific message to the situation ahead.

All products have the capability of gathering data, which can be viewed on the Westcotec platform, or by using our open API, it can be remotely directed to existing systems.

For 2023, the company has launched a world first 'Fatal 3' warning sign that is remotely connected to an AI camera that detects mobile phone, seat belts and vehicle speed, to display the necessary message or messages to the driver.

With technology developing so fast, Westcotec always stay ahead of the curve by keeping up with changing infrastructure and new demands imposed by updated technologies.

Yunex Traffic

Yunex Traffic is a global leader in intelligent traffic systems, enforcement solutions and service provision. We make roads safer, air cleaner and towns and cities better places.

Our solutions, expertise and experience make a real difference to UK roads and communities, keeping critical infrastructure including traffic signals and charge-points in optimal condition, ensuring the safe and efficient movement of people and goods.

Our solutions include sustainable and adaptive traffic management, road safety and enforcement solutions, vehicle detection, free flow tolling, tunnel management, as well as a full service proposition for the owners and operators of Electric vehicle Charging Infrastructure.

The UK's only daily update of highways and transport technology news

Highways / News

Our unique daily email is sent direct to your inbox every day at midday.

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quickGreen 2

Software for Measuring and Calculating Traffic Signal Phase Intergreens

quickGreen 2 is the latest release of JCT's innovative software tool to help signal engineers measure and calculate phase intergreens for traffic signal junctions. The software is designed not only to speed up the measurement process but also to reduce errors, improve the ease of checking of intergreens and assist with archiving intergreen calculations.

Detailed Features

The quickGreen process for determining intergreens is as follows:

- A drawing of the junction is imported into quickGreen from any of the usual sources including AutoCAD, a PDF, satellite imagery or even a scanned drawing.
- After importing the drawing is calibrated to a known scale within quickGreen.
- Lanes, Turning Movement Paths, and Pedestrian Crossings are added by overlaying them on the scaled drawing. Turning Movement Paths can be easily refined to fit any geometry using typically one or two control points on the path.
- As the model is built up, quickGreen will automatically locate intergreen conflict points and measure distances between stop lines and conflict points, as required by the calculation method described above. This results in X distances for the critical conflict points.
- Traffic signal Phases are added to group lanes controlled by the same Phase.
- The critical X distances are used to calculate a Phase Intergreen Matrix using the lookup table in the UK Traffic Signs Manual, Chapter 6.
- Calculated intergreens can be overridden and adjusted if necessary and notes can be added to explain why adjustments have been made.
- The Intergreen Matrix can be exported to LinSig or other signal design software.
- Traffic - Pedestrian and Pedestrian - Traffic Intergreens can also be calculated.
- A detailed PDF report showing how the intergreens were calculated as well as the final Intergreen Matrix can be produced.
- quickGreen can easily accommodate changes to Junction geometry. As lanes or turn paths are moved conflict distances and intergreens are instantly recalculated
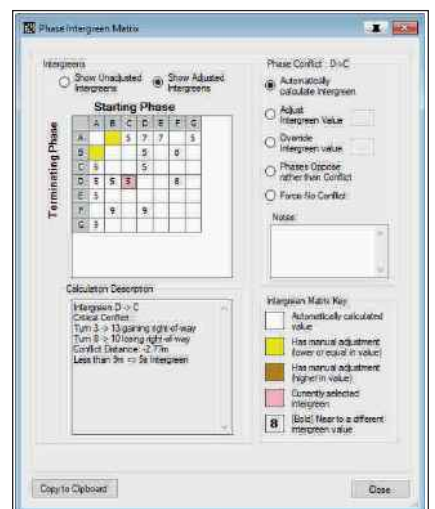
quickGreen 2 Improvements

quickGreen 2 provides similar functionality to quickGreen 1 but has been extensively rewritten to modernise and update quickGreen to be compatible with more recent versions of Windows and other software libraries and systems.

As part of this update the following have been improved:

- Graphics are now hardware accelerated using your computer graphics card or integrated graphics to make quickGreen's graphics quicker and smoother.
- Improved junction layout background image screen capture for importing a plan of a junction.
- Faster multi-threaded geometric analysis of Junction Geometry to find critical intergreen conflict points more rapidly on a multi-core processor.
- Improved workflow and menu structure including enhanced undo.
- Improved PDF based Reporting.
- Improved Printing of a quickGreen Junction Layout.
- More comprehensive User Guide

New purchase and pricing options

quickGreen 2 gives total flexibility on licensing, purchase multiple copies, get significant discounts and spread these across as many offices as you wish. And you can now purchase quickGreen 2 in two ways:

- **Perpetual Licences (with optional Support)**
- **Subscription (annual fee which includes support)**

GET A DEMONSTRATION TODAY ON THE JCT EXHIBITION STAND

About JCT

JCT Consultancy was formed in the 1980's and are probably best known for our product LinSig, which is used to evaluate the performance of traffic signal controlled junctions.

JCT offer modelling consultancy services. Over the years we have worked for Clients all over the United Kingdom, and even as far afield as Australia and New Zealand. We have worked on behalf of Transport Consultants who require modelling to test the impact of their development, and may even require investigation into any mitigation measures. We have also worked for many Highway Authorities, who require assistance in improving congested intersections, or auditing of modelling work submitted to them.

SERVICES	MODELLING	JUNCTION TYPES
Development Impact Testing	LinSig	Priority Junctions
Mitigation	quickGreen	Roundabouts
Concept Design	ARCADY	Signal Junctions
Auditing	PICADY	Co-ordinated Networks
Expert Assistance	TRANSYT	Signal Roundabouts

Consultancy Costs

JCT can provide a bespoke quotation for any specific job. Beyond the modelling, we can arrange traffic surveys (through a sub-consultant), process traffic flow data (although we would require any relevant growth factors / development flows), conduct site visits, determine signal parameters for proposals and produce technical notes.

For many clients who simply require modelling for an existing junction, and who can provide the traffic flows, signal specifications (if applicable) and layout, JCT can produce a desktop model, pdfs of the model input/output and summary results tables. Indicative costs , excluding VAT, are from (assuming up to 10 flow groups):

Traffic Signals	LinSig MOTs	Priority Junctions
T-Junction / Crossroads £595	T-Junction / Crossroads £350	T-Junction / Crossroads £295
Signal Roundabout £895	Network (up to 3 junctions) £595	Mini-Roundabout £295
Network Contact Us	Roundabout £495	Roundabout £495

Contact Us

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LN2 2LL

EXHIBITOR PLAN

REGISTRATION

L6 — Urban Tide
L5 — IHE
L4 — RTEM

P1 — JCT
P2 — Austar

ACCESSIBLE TOILET   ACCESSIBLE TOILET

A1	A2	A3	A4
SRL	Swarco	Telent	Hydro

To lecture theatre (lower)

SYMPOSIUM LECTURE THEATRE

L3 — LCRIG
L2 — AGD
L1 — Traffic Group Signals

O1 — Teledyne FLIR
N1 — TWM

C1 — PTV
D1 — INRIX

B1 — Simpifai Systems
B2 — ITS (UK)

S1 - S2 — Yunex Traffic
S5

S3 — PDS
S4 — NOW Wireless
TRP

To lecture theatre (upper)

K1 — NAL

F1 — Messagemaker Displays
G1 — ARTSM

To lecture theatre (upper)

M1 — Coeval
M2 — Seoul Robotics

E1 — TRL
E2 — Drakewell

To lecture theatre (lower)

I2 — smartmicro UK
I1 — Westcotec

H2 — VivaCity
H1 — Starling Technologies

Route from main entrance and upper exits from lecture theatre (level 1) Lifts

MEN'S TOILETS
ACCESS TOILET

WOMEN'S TOILETS
ACCESS TOILET

JCT Symposium 2023 Exhibitors