



Introduction

Axel Kuehn is a German public transport expert with a deep understanding of infrastructure, rolling stock and operational features and their interfaces to urban planning and design. He owns for many years a very international profile with all kind of projects in Europe and beyond. After civil engineer studies with a concentration on transport planning the consultant has started working in the public transport sector in 1986 – first as a civil servant for the Karlsruhe public transport operating companies VBK/AVG, later for AVG's consultancy subsidiary and since 2002 as an independent consultant.

The consultant has extensive experience with international state-of-the-art public transport solutions and especially with urban and regional rail projects including tramways, light rail, TramTrain and TrainTram. He has a comprehensive overview of the international light rail and tramway market and its technologies and trends.

In recent years the consultant has also developed a sound expertise in regard of busway projects by investigating and comparing planning philosophies and approaches in Europe and beyond.

Since the mid-1990s the consultant has been involved with international projects covering the whole range from strategic to detailed technical advice.

CV Axel Kuehn

Proposed position: Expert
Profession: Civil engineer (Dipl.-Ing.)
Date of birth: 24th May 1959
Nationality: German
Professional service: 31 years

Key qualifications:

- ⇒ Excellent speaking and writing capabilities in German / English
- ⇒ Serious background in most aspects of modern public transport
- ⇒ Expert reputation in the field of Light Rail and TramTrain
- ⇒ International record of presentations, papers and publications
- ⇒ Excellent international network

Language capabilities:

	SPEAK	READ	WRITE
German	Excellent	Excellent	Excellent
English	Excellent	Excellent	Good
French	Fair	Good	Fair
Danish /Norwegian	---	Good	---

Education:

1984 Diploma: Planning of a cycle alignment between Durlach and the city centre of Karlsruhe; was awarded a prize in the Schinkel-competition 1985 in Berlin

1980 – 1984 Studies in Civil Engineering, specialising in traffic planning at Karlsruhe Fachhochschule

Employment record:

2002 – Independent consultant

1996 – 2002 Deputy director of TransportTechnologie-Consult Karlsruhe GmbH (TTK)

1992 – 1996 Part-time consultant for Verkehrs-Consult Karlsruhe GmbH (VCK)

1986 – 1996 Verkehrsbetriebe Karlsruhe (VBK) / Albtal-Verkehrs-Gesellschaft mbH (AVG) – planning department

Major tasks carried out:

- 2002 –** Organisation and implementation of study-tours, workshops, seminars and presentations for international clients (Belgium, Denmark, France, Netherlands, Norway, Sweden, UK)
- 2017 –** Expert role within Capital line light rail extension project in Edmonton/Canada – focus on European approaches for high-floor light rail systems; in co-operation
- 2016 – 2017** Coordination, partner search and thematic configuration of an EU-Research project in the Horizon 2020 program (Transit-oriented development – partners from 16 European states)
- 2016** Expert role within the BQX tramway project in New York / US (sub-contract)
- 2016** Expert advice for Oslo Sporveier regarding crossings between cycle and tramway alignments – international best practice
- 2016** Expert advice for Odense Kommune / Denmark regarding operational alternatives for the first tramway line
- 2016** Expert advice for Oslo Sporveier regarding tramway operation through pedestrian areas and related speed allowances – international best practice
- 2016** Benchmarking study assigned by Sandnes Kommune/Norway; focus on “bus city” features
- 2014 – 2015** Member of independent expert panel for the “Oslo node” project; commissioned by Jernbaneverket
- 2014 – 2015** Preparation of tender documents for city of Regensburg/Germany in regard of a strategic study on the future public transport system; assistance with prequalification and final choice of the consultant
- 2014 – 2015** Assistance within the Ring 3 project (Greater Copenhagen) in regard of international approaches to the procurement and funding of light rail projects (sub-contract)
- 2014** Independent review of the Aarhus Letbane project in view of potential alternative strategies for stage 1; in co-operation, commissioned by the Transport Ministry
- 2013 – 2014** Best practice guidance document for the Danish road authority (“Vejdirektorat”) regarding junctions of light rail and BRT-alignments with road traffic; in co-operation
- 2009 – 2014** Continuous advice as “Client’s Engineer” for the city of Odense/ Denmark in planning phase of a tramway system
- 2004 – 2014** Continuous advice as “Client’s Engineer“ for Midttrafik (Aarhus Amt until 2006) in planning phase of Aarhus light rail project
- 2013** Update of the Local Public Transport Plan for the area of the Freiburg Passenger Transport Authority (ZRF); in co-operation

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- 2013** Strategic advice in early phase of Nord Jaeren busway – focus on international approaches
- 2010 – 2013** Mobility concept Nordstad/Luxembourg, public transport part; in co-operation
- 2011 – 2012** Leader of European/Scandinavian advisory team for South-East and West light rail extension in Edmonton/Canada; in co-operation
- 2008 – 2012** Client advisor for Bybanekontoret Stavanger in planning phase of Kombibane/Bybane project; various reports including technical parameters and planning philosophy, regulatory framework, single track options and limits, shared alignments tramway-bus and related platform interfaces, rolling stock issues including catenary free operation, network and stop strategies etc
- 2010** Benchmarking study RegioTram – comparison of the Kassel RegioTram with other German / International regional light rail and TramTrain schemes using specific benchmarking parameters, commissioned by Nordhessischer Verkehrsverbund (NVV)
- 2010** Preliminary cost-benefit assessment for a tramway extension of the AVG-route to Ittersbach towards Pforzheim city centre + evaluation of an increased PT-offer between Pforzheim and Mühlacker – in cooperation, assigned by Pforzheim municipality and Enz-county
- 2010** Study regarding experience, developments and trends within the tramway rolling stock market – assigned by Bybanekontoret Stavanger
- 2009 – 2010** “Special advice” member of project team for light rail extension to Bergen Flesland airport
- 2009 – 2010** Study for SKYSS / Hordaland Fylkeskommune regarding state-of-the-art technologies, developments, experience and trends within the field of trolley buses, gas buses and hybrids + comparison with classic Diesel technology under economic and ecological perspectives; in co-operation
- 2009** Short-term rolling stock requirements for Bergen Bybane – assigned by SKYSS; using bus network survey results, patronage forecast scenarios and international experience, in co-operation
- 2009** Medium-term network concept for the tramway of Bergen/Norway; in co-operation
- 2008 – 2009** Expert advice for B-Rail regarding LightTrain application for Belgian regional railways
- 2007 – 2009** Transport Master Plan for Pforzheim, advice on light rail issues; in co-operation
- 2008 – 2009** Quality control function in KVVU process for Stavanger Kombibane (international comparison / benchmarking)
- 2007 – 2008** Advice for CEIS/Innovation 128 (Paris, France) regarding rail technology issues
- 2007 – 2008** Definition of planning parameters for Groningen Regiotram project (Tram vs. TramTrain requirements)

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- 2006 – 2008** Advice for Regensburg municipality regarding medium-term public transport policy and rail-bound urban transport solutions
- 2007** Stavanger Kombibane (TramTrain); advice regarding infra-structure, operation/organisation and rolling stock; in co-operation
- 2006 – 2007** TramTrain Brussels-Aalst; advice regarding infrastructure, rolling stock and operational concept; in co-operation
- 2006** Advice for Sandnes municipality in Norway regarding public transport requirements for new large housing development areas; in co-operation
- 2006** Advice for Groningen/Drenthe region in the Netherlands regarding TramTrain potential and a more regional role of a planned light rail scheme; in co-operation
- 2006** Expert role (rolling stock) in a Spanish project team for the Chiclana-San Fernando-Cadiz TramTrain-project
- 2006** Advice on best practice regarding the web-appearance of the Rastatt city-bus scheme + specifications for a planned re-launch
- 2005 – 2006** Expert advice for Rastatt municipality regarding cost increases within the Murgtalbahn light rail project
- 2005** Advice for the city of Dudelange/Luxemburg on TramTrain + general rail transport issues; part of local project team
- 2005** External advisor for the Bergen (Norway) light rail project, contract with the Light Rail unit within Bergen municipality
- 2005** External advisor for the Porsgrunn-Skien (Norway) light rail project, contract with Telemark County
- 2004 – 2005** Expert advice for Oslo Sporveier (maintenance cost benchmarking, second opinions on study reports etc..)
- 2004 – 2005** TramTrain-potential of the Greater Oslo region, study within Oslopakke 2 framework, contract with State Road Authority (“Vegvesen”)
- 2003 – 2005** Member of expert panel for the Interreg (North Sea)-project HiTrans (High Quality PT for medium-sized cities); additional consultancy advice on various issues
- 2004** Coventry-Nuneaton LRT Feasibility Study; together with Parsons Brinckerhoff, Interfleet and NEXUS, contract with CENTRO
- 2003 – 2004** Cost-Benefit analysis for the light rail extension through the city of Rastatt (update of earlier studies with the new “Standardisierte Bewertung, Verfahren 2000”); in co-operation, project leader; contract with Rastatt municipality
- 2003 – 2005** “Shared Stop Infrastructure for Trams & Buses” study; contract with London Buses / Transport for London
- 2003 – 2004** Update of the Local PublicTransport Plan for the area of the Freiburg Passenger Transport Authority (ZRF); in co-operation
- 2002 – 2003** Technical and regulatory issues related to a mixed use of a planned new S-Bahn-tunnel in Basle, Switzerland; in co-operation

2002 Advising expert regarding traffic and transport issues within an architects' competition for the main railway station in Ljubljana/Slovenia

For TTK:

2001 – 2002 Concept, partner search and proposal for EU-Thematic network on Light Rail (LIBERTIN), main partners UITP and UNIFE, project started in 2002

2001 – 2002 Rolling stock consultancy services for SIEMENS TRANSPORTATION Vienna

2000 – 2001 EU-research project CROSSRAIL (Growth FP4) - integration of local and regional rail (TramTrain) + cross-border aspects

2000 – 2001 Study for UK DETR on Light Rail and complementary Measures, part 2

2000 – 2001 EU-study on the obstacles to a better functioning of the internal market for rail mass transit with a focus on different standards and regulations

1998 – 1999 Expert advisor for a TramTrain-project in Stavanger / Norway (Transportplan Nord Jaeren)

1998 – 1999 Expert advisor for Briztram project in Brisbane / Australia

1997 – 1998 Technical team leader of an international consortium for the design of the Northern section of the planned Luxembourg TramTrain scheme

1997 – 1998 Strategic concept and feasibility study for the Passenger Transport Authority of Kassel, Germany, with regard to an optimised and cost-efficient use of existing infrastructures for railway, tramway and TramTrain

1996 – 2002 Project leader for the operational, technical and economical evaluation and the preliminary design study for the Ljubljana tramway / TramTrain scheme

1996 – 1997 Technical feasibility study regarding a combined vehicle for the three rail systems railway, metro and tramway in Oslo/Norway

1996 – 1997 Safety features of conductor rail electrified railway routes in Southern England with regard to tram-train and low-floor issues

1996 – 1997 Study for Strathclyde Passenger Transport regarding a TramTrain system in the Glasgow region

1992 – 2002 Involvement and project leadership for a number of German railway, tramway and TramTrain projects, mainly regarding infrastructure and rolling stock issues

For VBK/AVG:

1986 – 1996 various projects within the Karlsruhe region including the first tram-train routes from Karlsruhe to Bretten, Wörth and Pforzheim + new light rail routes in suburban village areas like Karlsruhe to Hochstetten, Rheinstetten and Stutensee