

# CV

## Personal data:

Name : Niels Thougård Pedersen  
 Year of birth : 1965  
 Marital status : Married, 3 children ('90, '92, '97)  
 Address : Virumbakken 10, DK-2830 Virum



## Education:

M.Sc. Civil Engineering 1989

## Competencies:

- Large experience in project management in multidisciplinary railway projects and civil work projects in all project phases.
- Large experience in planning of railway infrastructure in early project phases.
- Large general technical insight in railway technology – track sub- and superstructure, signalling and power supply.
- Technically competent in track technology
- Profound technical competence in traction power systems – especially mechanical design.
- Deep insight in international norms and standards for railway infrastructure and technology.
- Large experience in stage planning.
- Large experience in authority approval
- Large knowledge on legal matters on tendering and contract management.
- Full professional proficiency in English.

Characteristics: Easy to work with, goal seeking, systematic and no nonsense. Possession of sound judgement, political understanding, and a good pen.

Strong project manager with an engineering approach – Strong engineer with project manager skills.

## Employments:

2013-	Independent Consultant
2010-2012	COWI. Technical Director in department for Railways and Metro.
1991-2010	Rambøll. From 2002 as Project Director. From 2008 as Senior Chief Consultant – all positions within railway infrastructure.
1991-1992 (part time)	Technical University of Denmark. Teaching, statics.
1990-1991	Technical University of Denmark. Research, teaching.

**Planning and client consultancy – selected experiences:**

- 2023: Client consultancy on new road underpass. For EGEM Ejendomme
- 2022-2023: Market analysis on organization and tendering for light rail infrastructure maintenance. For Aarhus Letbane
- 2022-2023: Client consultancy on approval of new parking house at and above railway. For Municipality of Aarhus
- 2022-2023: Client consultancy on approval of new pedestrian path at railway. For Municipality of Næstved
- 2021-2023: Misc. advice in relation to new workshops and depots. For DSB.
- 2019-2020: Assistance to track renewal tender proposals. For Swietelsky.
- 2019-2020: Client consultancy on consultancy tender for new pedestrian tunnel under railway line. For Municipality of Herlev.
- 2018-2019: Plan for updating of technical safety rules for infrastructure manager. Tendering and contracting of consultancy and assessment services, process management. For Arriva.
- 2018: Client consultancy on consultancy tender railway issues in relation to road and bridge project. For Municipality of Køge.
- 2018: Sub-consultancy in strategic analyses of outsourcing of railway maintenance vehicles. For Deloitte.
- 2018: Sub-consultancy in review of the Banedanmark Electrification Programme, For Deloitte.
- 2017-2018. Client Consultancy on tendering and negotiation of LRT infrastructure maintenance. For Odense Letbane P/S.
- 2016-2017: Participation in working group analysing opportunities and threats for light rail systems in a driverless future. For Metroselskabet I/S.
- 2015-2016: Client consultancy on railway issues in relation to road project. For Municipality of Køge.
- 2015-2016: Development of tender for infrastructure maintenance on Aarhus Letbane. Tender structure, general work conditions, PQ, evaluation, negotiation etc. In cooperation with Rambøll. For Aarhus Letbane I/S.
- 2013-2015: Aarhus Light Rail: Aarhus LRT is partly running on Banedanmark owned infrastructure. Process and technical assistance to the Client in planning and processing an infrastructure manager agreement between the two parties. Interface agreement with DSB on common station. Consultancy on infrastructure maintenance and tendering hereof.
- 2013: LRT Glostrup-CPH. Pre-EIA phase; Traffic basis, urban insertion, urban development potential. Liaison to the project with relevant Danish LRT experience – planning, traffic-wise and technical. For Rambøll.
- 2013-2014: Køge st.: Client Consultancy on railway related topics in a large urban development around the railway. Stakeholder involvement, track possession coordination, consultancy tenders etc. For Køge Kyst P/S.

**Previous employments:**

- 2010-2012: Internal planning and management in technical development, new services, best practices, knowledge sharing, recruitment etc.
- 2011: Defining and organising frames for railway tasks (railway and light rail) in the Aarhus Light Rail Project. For the Light Rail Secretariat.
- 2007-2008: Railway infrastructure planning in preliminary project phase for freight terminal at Køge on new high speed line Copenhagen-Ringsted. For the Danish Transport Authority.

- 2008: Contribution to the report "State of the Nation" for the railway sector. For F.R.I
- 2007: Preliminary design for new passenger station at 'Sydporten' as support for new urban development. For Sydporten.
- 2006 Local specialist and liaison engineering in outsourcing study for all power infrastructure and power supply in Banedanmark. For Scott Wilson UK.
- 2004-2005. Preliminary design for new S-line along Ring Road III, Lyngby-Hundige. In cooperation with DSB S-tog and Siemens.
- 2003-2004. Preliminary design for new passenger station at rail junction in Taulov. For Municipality of Fredericia.
- 2003-2004. Preliminary design and traffic consequences by taking the railway underground through Køge. For Municipality of Køge.
- 2002. Major renovation of Copenhagen main Central: Concrete renovation, elongation and lowering of platforms etc. Coordination of traffic during construction, railway infrastructure, platform project. Preliminary project. For DSB.
- 2001. Work with various alternatives for major modernisation of Nørreport station. Coordination between civil works and railway traffic/infrastructure, stage planning, cost estimate etc. For DSB.
- 2001. Feasibility study for commercial sustainability of a new type of low, movable noise barriers. For Banedanmark.
- 1999-2000. Seconded to Banedanmark. Assistant Project Manager on the Ringbane Project. Worked with public EIA hearings, EIA reporting, legislation, negotiations with affected municipalities, contract management, time schedules, cost estimates etc. For Banedanmark.
- 1998. Seconded to Banedanmark. Assistant Project Manager for preliminary design for various major alternatives for a 20-50% capacity extension of Copenhagen main Central. For Banedanmark.

#### **Project Management - selected experience:**

- 2022-2023: Discipline lead OCL for track renewal Fredericia-Padborg. For Sweco
- 2021: Project proposal of OCL for company siding. For Sweco
- 2021: Project proposal for OCL-changes at depot Hundige. For MOE.
- 2020-2021: Development of generic paradigm for tender documents for OCL-work. For Banedanmark.
- 2019-2022: Sub to Rambøll in Aarhus LRT extensions stage 2. Proposal, planning, EIA and design.
- 2018-2022: Planning, organisation, and coordination of railway activities at new tunnel underpass and for new bridge overpass. For tunnel/bridge contractor C.G. Jensen.
- 2016-2022: Design management for traction power and coordinating design management in a large number of track renewal and OCL renewal projects – all project phases. Part time secondment to Banedanmark.
- 2014-2016: Clients design management and planning for OCL in the project for track and OCS renewal on the Køge Bugt S-line. For Banedanmark.
- 2013: Aarhus Light Rail. Ad hoc assistance – consultations and reviews, interface coordination with DSB, technical input on special topics. For COWI.

#### **Previous employments:**

- 2012: Odense Tramway. Responsible for the transportation system (rolling stock and rail infrastructure) in conceptual design and EIA phase. Until the end of 2012. For the Municipality of Odense.

- 2012: Road tunnel under railway lines at Køge station. Responsible for railway infrastructure and technical coordination between client at Banedanmark and operators. Project Proposal. For Køge Kyst P/S.
- 2011: Project Manager for Project Proposal for preparing railway works (rebuilding of existing railway infrastructure) prior to construction of Aarhus Light Rail. Technical coordination between client and Banedanmark and operators. For the Light Rail Secretariat.
- 2011: Project Manager for rebuilding and renewal of part of Fredericia station. Technical improvement of shunting safety, work environment improvement, shore supply installations, track rebuilding for increase in stabling capacity and for production flow improvement, supply installations, OCS, etc. All disciplines, detailed design and tender design, contracting for three construction contracts. For DSB.
- 2010: Project Manager and engineering for preliminary project for new stabling area on the Lersøen area in Greater Copenhagen. For Public Architects / DSB.
- 2010: Project Manager for railway infrastructure for the Femern landside (Ringsted-Orehoved) until change of employer. For Banedanmark.
- 2006-2008: Project Manager for Copenhagen S-line design and construction of main track no. 6 at Copenhagen Central. Including total renewal of OCS. Project Proposal and detailed tender design for several contracts. For Banedanmark.
- 2005-2007: Tender for design & build and project follow up for new stabling area on Østerport station. For Banedanmark.
- 2004-2005: Project Manager for track renewal projects Herning-Give and Give-Vejle – in total more than 70 km. For Banedanmark.
- 2004-2005: For major planned DSB new rolling stock fleet insertion and new timetable implementation (GTA). For 13 stations: Technical improvement of shunting safety, work environment improvement, shore supply installations, track rebuilding for increase in stabling capacity and for production flow improvement, supply installations and washing plants. Technical projects and cost estimates. For DSB.
- 2003-2005: Project Manager for civil works and railway infrastructure works for DSB rebuilding of end station facilities at Odense and Nykøbing F. From Preliminary Design to commissioning. Planning in cooperation with local users, tender design, contracting, construction management and site supervision for several contracts. For DSB.
- 2001-2004: Local network upgrade at Greater Copenhagen (LOKO). Design manager for end station facilities: Platforms, power supply, lighting, pedestrian routes, fire piping, shore supply etc. Detailed design and installation. For Banedanmark.
- 2000-2001: Project Manager for design and installation of fibre optic network. Basic design, fibre alignment, authority permits, tendering, technical rooms, end customer connection, construction management, site supervision, management of client supplies. For Song Network (now TDC).
- 1998-1999: Engineering, project planning and administration for new line Copenhagen-Ringsted in preliminary design phase. Civil works and earth works. For Banedanmark.
- 1997: Project Management and engineering for structures for new flue gas ducts and desulphurization plant for existing oven line on Kommunekemi Nyborg. Concrete and steel structures incl. steel ducts. For FLS Miljø.
- 1997: Project Management and interdisciplinary coordination in a Project Proposal for the Vestfold Line in Norway. Line upgrade of two sections, contraction between existing single track and new double track sections. Rebuilding of complex station. Overhead catenary system, signalling, tele/radio, power supply. Carried out in joint venture with lead. For Jernbaneverket (Norwegian National Rail Administration).

**Technical specialist and engineering - selected experience:**

- 2022-2023: Draft for new structure gauge standard for gauge above upper part. Calculations, standard text, technical argumentation. For Banedanmark.
- 2022-2023: Specialist assistance for requirement specification for new generation of OCL cantilevers. Sub to Rambøll for Banedanmark.
- 2022: Specialist assistance on neutral sections for line upgrade. Sub to Niras for Sund & Bælt.
- 2020-2021: Technical validation of design for new type of split neutral section. For Banedanmark.
- 2019-2020: Assistance to MJBA in authority approval process for technical safety rule
- 2019: OCL-project in Norway, technical QA. For Niras.
- 2018: Analysis in relation to track renewal in CWR-track with old rail type. For MJBA.
- 2017: Specialist assignment in relation to TSI ENE-approval of neutral section. For Great Belt Link
- 2017: Technical expert in assessment of LRT traction power standard. For Ricardo
- 2016-2017: Technical writer on new design- and installation guideline for infrastructure for fibre optical network. For Banedanmark
- 2016-2017: Technical secretary for a WG on international benchmarking of future specifications for metro and light rail rolling stock. For Metroselskabet I/S.
- 2016-2017: Assessment of technical maintenance standards for 32,75 kg rail. For Lokaltog.
- 2016: Pre-review and commenting on a new drafted technical standard for specifications on earthing and bonding. For Banedanmark.
- 2015-2016: Technical and process services in type approval for a new cable sleeper track component. For Banedanmark
- 2015: Assessment of proposed design wind loads for the national electrification programme. For Banedanmark.
- 2015: Misc. technical reviews and assistance for OCS-projects. For Rambøll.
- 2015: Ringsted-Femern line upgrade: Cross disciplinary review of tender documents for track works tender and stations tender. For Rambøll
- 2015: TSI INF Gap analysis between CR/HS TSI's and merged TSI on selected track components. For Banedanmark, New Line Kh-Rg.
- 2014-2015: Ringsted-Odense main line speed upgrade. Programme phase. Responsible for electrification. For Grontmij.
- 2014-2015: Technical writer for new Danish standard on railway gauges (static, kinematic and structure), BN1-166. For Banedanmark.
- 2014-2015: Copenhagen Light Rail Circle Line III. Ad hoc technical specialist assistance for the transportation system design. For Rambøll.
- 2014: Ringsted-Femern line upgrade: Cross disciplinary review of tender documents for 6 civil works tender packages. For Rambøll
- 2013: Technical check of assessment report on revision of Danish alignment rules. For COWI
- 2013: Ringsted-Femern line upgrade. Multidisciplinary review of programme phase report for the section Ringsted-Masnedø. For Rambøll.
- 2013: Third party independent check of consultants' capex budget for new electrification of the lines Vejle-Struer and Lindholm-Frederikshavn. For Grontmij.
- 2013-2014: Technical assessment on revision of Danish alignment standard BN1-154. For Banedanmark.
- 2013-2014: CSM technical assessor on permanent way in track renewal project on the line Høng-Ruds Vedby. For Regionstog.

- 2013: Ringsted-Odense main line speed upgrade. Definitions phase. Responsible for electrification. For Grontmij.
- 2013: Odense Tramway: Ad hoc assistance – project basis, technical and multidisciplinary reviews, technical memos on special topics etc. For COWI.
- 2013: Miscellaneous projects in overhead line engineering: Technical review Oslo-Lysaker. OCS in relation to track renewal project Vallensbæk, bridge renovations BP32 on the Køge Bugt line. Detailed design for OCS reconstruction due to new underpassing in Nordhavn. For Grontmij.

Previous employments:

- 2012: Miscellaneous rail specialist tasks at Odense Tramway project. For Bystrategisk Stab, Odense.
- 2011-2012: Miscellaneous rail specialist tasks at Aarhus Light Rail project. For the Light Rail Secretariat.
- 2011: Detailed projects for installation of new type neutral sections and spring tensioning devices in the Great Belt Link overhead catenary systems. Including authority approvals. For Storebælt A/S (Great Belt Link).
- 2010: Evaluation of various OCS solutions for Femern landside infrastructure. For Banedanmark.
- 2009-2010: Technical strategy and engineering in design of complete OCS renewal on the Copenhagen S-line between Copenhagen and Valby. For Banedanmark (Banedanmark. For Banedanmark.
- 2008: Elaboration of design & build tender for reconstruction of special components in overhead conductor rail system at the central S-line. For Banedanmark.
- 2006: Detailed design of Swedish OCS on Märsta station at track renewal. For Banverket (the Swedish Transport Administration).
- 2006: Technical specialist analysis after overhead conductor rail break down at the central Copenhagen S-line. For Banedanmark.
- 2005: Responsible for railway interfaces for changing the level crossing Grenåvej / Grenå railway line into a level free crossing. For the Municipality of Aarhus.
- 2004: Participation in the Banedanmark Asset Management project as OCS specialist. For Banedanmark.
- 2002: Elaboration of new guidelines for effective maintenance of overhead contact line systems. Later transformed into norm BN1-82. For Banedanmark.
- 2000: Detailed design for traction power coupling in washing plants at Kastrup and Helgoland. For DSB.
- 2000: Detailed tender design, tendering and contracting for rebuilding - lowering – of overhead contact lines at Ørestad station because of new bridges. For Metro-selskabet (the Copenhagen Metro Company).
- 2000: Analysis of OCS crossings and the need for cross droppers in new Dutch OCS. For Strukton.
- 1999: Detailed design in design & build contract for overhead conductor rail for replacing existing OCS at central part on the Copenhagen S-line. For Banedanmark Service (Banedanmark, internal contractor).
- 1999: Project Proposal for overhead catenary systems and other electro technical systems for a section on the Skøyen-Asker line. Description and evaluation of various technical solutions. For Jernbaneverket (Norwegian National Rail Administration).
- 1997: For the first Dutch 25 kV line: Elaboration of report for OCS under passing low bridges. Principles for bridge under passing, norms, isolation clearances, installation, and maintenance experiences from Danish systems. For NS.

- 1994-96: Traction power system for new urban transit system in Copenhagen. Program, Conceptual Design, Project Proposal, Tender documents. The tasks comprised norm basis, evaluation of various traction power systems, preliminary design for Tram/Light Rail/Metro, Project Proposal for Metro, performance tender documents, tender evaluation, and participation in contract negotiations. For Metroselskabet (the Copenhagen Metro Company).
- 1991-96: More years of experience doing detailed design of overhead catenary system on the Danish mainline railway. Responsible for development and refinement of software tools for OCS design. For DSB.

### **Authority approval – selected experience**

- 2023: Authority approval for 3<sup>rd</sup> party building project in close proximity to Odense Light Rail. For JORTON.
- 2023: Assistance to NSA in revision of act for rolling stock-infrastructure compliance.
- 2023-2023: Assistance to NSA in elaboration of guidance for distinction between railway safety and electrical safety.
- 2022-2023: AsBo. Traction power in various projects, assistance in elaboration of NSA-guidance, acting resource in NSA case work on electrification. For TÜV SÜD
- 2017-2022: AsBo. Traction power in various projects. For Ricardo
- 2019-2022: Overall and periodically hands on, management for the CSM-process for light rail crossings of S-lines. For design & built contractor CG Jensen.
- 2018-2020: AsBo. Lead assessor and permanent way assessor for renewal of harbour tracks. For Fredericia Harbour.
- 2018: Responsible for CSM process in a track pollution clean-up project. For Arriva.
- 2017: System Definition and Assessment of Significance in siding track renewal.
- 2013-2017: Safety and interoperability coordinator for three tender packages and various specialist assistance on other packages on the New Line Copenhagen-Ringsted. For Banedanmark.
- 2013-2017: AsBo. Permanent way in track renewal project. For Lokaltog.
- 2013-2021: Technical consultant (exclusively) on electrification for the National Safety and Interoperability Authority. Traction power courses, ad hoc services, NSA member of ENE TSI working party.

### **Teaching**

- 2022-2023 Teaching courses in “Traction power technique” for various target groups in Banedanmark.
- 2015 Teaching courses in “Traction power technique for design managers” for Banedanmark
- 2014-2019 Courses in traction power technique, National Safety and Interoperability Authority
- 2013 Development of teaching course in traction power systems for the National Safety and Interoperability Authority.
- 2008-2012 External counselling for B.Sc. and M.Sc. thesis on more technical universities.
- 2009 Technical University of Denmark (DTU): Participation in planning of new Master for railway engineers.
- 2009-2017 Lectures in railway design and maintenance at Technical University of Denmark (DTU).
- 2010 Teaching course in Norway in mechanical design of overhead catenary systems with focus on Norwegian design rules.

**Miscellaneous information**

- Large personal network in the Danish railway sector.
- Knowledgeable on the EU Safety Directive and the EU Interoperability Directive
- Experienced in theory and practice in authority safety approval according to Danish regulation which is based on methodology from the EU CSM-RA Regulation.

**Selected courses and conferences - recent**

- Webinar on RDS (reference designation systems) ISO/IEC 81346, 2022
- Current collectors (IDA Rail), 2022
- "Battery Trains. Best Practice Workshop", 2021 (UIC)
- Course "Lithium batteries and beyond", 2020 (Danish Battery Society)
- "Advanced energy storage 2020 – electrical storage" (Danish Technological Institute)
- The yearly Danish Railway Conference; Participated every year since the beginning. One conference paper (2013).
- The yearly Safety Conference held by the National Danish Safety Authority; Participated every year since the beginning.
- Innotrans 2010, 2014, 2016, 2018
- "Electrification Infrastructure: Whole Life Cost Reduction Congress", London. Participated 2013 and 2014.
- Danish Standards (the National standardisation organisation) course: Rules for European Standardisation.
- Danish Standards (the National standardisation organisation) course: Rules for International and European Electro Technical Standardisation (IEC/CLC).