

MAKING CITIES MORE APPEALING AND SUSTAINABLE PLACES TO LIVE AND WORK

→ TRAMS



keolis



WORLD LEADER IN TRAM OPERATIONS

MORE THAN
700 KM
of track

26 TRAM
networks worldwide
in

9 COUNTRIES

(Australia, Canada, China, Denmark,
France, Qatar, Sweden, The UAE and
The United Kingdom)

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THE WORLD'S LEADING TRAM OPERATOR

Operating and maintaining more kilometres of track and carrying more passengers than any other transport service provider, Keolis is a world leading tram operator. We apply our 40 years of experience in light rail operations to the networks we operate and maintain today on four continents. We share our experience with public transport authorities and partners to deliver industry-leading standards of safety, punctuality, customer satisfaction and continuous improvement.



MORE THAN 700KM OF TRAM OPERATIONS AROUND THE WORLD

Keolis, at the forefront of light rail development worldwide.



LARGEST TRAM NETWORK IN THE UK:

GREATER MANCHESTER
with 103km of double track

LARGEST TRAM NETWORK OPERATED:

AARHUS, DENMARK
with 110km of double track



14 TRAM NETWORKS IN FRANCE

(of which 5 in Paris Île-de-France)



SUCCESSFUL DELIVERY IN ALL CONDITIONS

HARNESSING WORLD-LEADING EXPERIENCE

NETWORKS AND TECHNOLOGY

Keolis operates and maintains a wide array of tram networks. We adapt our services to every situation in terms of assets and operating conditions:

- Services on mixed traffic roads (e.g. Nottingham) as well as segregated lines
- Tracks shared with rail services other than trams
- Trams with priority at traffic lights or no priority
- Power supply from overhead lines or ground-level (APS) infrastructure (e.g. Bordeaux, Dubai)
- Conventional trams to tram-train lines (e.g. Paris lines T11 and T14, Aarhus)
- Single class or mixed rolling stock fleets of various ages
- Operations in adverse climate conditions, from cold (e.g. Waterloo) to hot (e.g. Dubai).

CONTRACTUAL ARRANGEMENTS

We are flexible and used to working with public transport authorities and local industry leaders under a variety of different models. Our contractual arrangements in different cities include:

- Operation and maintenance of the tram network and vehicles (e.g. Manchester)
- Operation of the entire city public transport network (e.g. Bordeaux)
- Revenue risk
- No revenue risk (e.g. Strasbourg)
- Partnering in design, build, finance, operate and maintain (DBFOM) contracts (e.g. Nottingham, Waterloo).



OUR MAJOR TRAM NETWORKS AND KEY FACTS

EUROPE

📍 AARHUS, DENMARK,

the longest tram network operated by Keolis: in 2017, Keolis launched the country's very first tramway in Aarhus, a 110 km long network with 51 stations.

UNITED KINGDOM

📍 GREATER MANCHESTER*,

Keolis took has operated and maintained Manchester Metrolink since 2017 with a contract currently running to 2027. The network has 103 km of track and recorded 45.6 million passenger journeys in 2024.

*KeolisAmey Metrolink has been named Operator of the Year at the 2024 Global Rail Awards.

AUSTRALIA

📍 GOLD COAST,

In 2021, customer satisfaction on the 20 km network reached 89.4% and punctuality 96.7%.

More than 72 million passengers were served since its opening in 2014.

CANADA

📍 WATERLOO,

Open since summer 2019, the Waterloo tram system is 16 km long and has 19 stations. It serves the fourth largest community in Ontario with over half a million inhabitants. Availability is 99.5% and on-time performance is 99%.

CHINA

📍 DUJIANGYAN,

Awarded in 2022 for both operation and maintenance and inaugurated in May 2024: 17km of double tracks, 21 stations.

MIDDLE EAST

📍 LUSAIL, QATAR

Keolis and its partners were entrusted with both operation and maintenance of the network which opened in 2022. Today with three lines, the Lusail tram network has 18 km of tracks, half of which are underground.



Doha, Qatar

OUR COMMITMENTS TO CLIENTS, PASSENGERS AND COMMUNITIES

In all its contracts, Keolis pursues a combination of commitments that seek to make public transport a natural choice for passengers.



1 Zero harm

We have set ourselves the highest possible safety standard – zero injuries to passengers, employees and the public on and around our networks.



2 Economic efficiency

We provide added value to clients by harnessing our operational, commercial and managerial expertise to consistently improve service quality and revenue whilst reducing lifecycle costs.

ATTRACTIVE PUBLIC TRANSPORT

>>> Through these efforts, we provide high-quality and accessible public transport, seamlessly integrated into the fabric of city life.



3 Operational excellence

We provide services that passengers can depend on, whatever the conditions. From this foundation, we adapt to the needs of residents and clients – by redesigning networks for long-term improvement and to cater to any special events.



4 Sustainable operations

We create sustainable businesses by reducing the environmental impact of travel. We build relationships of trust with our clients, investing in employee skills and developing our services for all citizens.



Gold Coast, Australia

DELIVERING ON OUR PROMISES

To deliver on our promises wherever we operate, we follow five principles of excellence that reflect the entire lifecycle of the network: from design and construction to start of operations, improving day-to-day performance and developing the network.

1

Early engagement
with transport
authorities

2

Securing smooth
launches and
takeovers

3

Thinking Like
a Passenger

4

Optimising
operational
performance

5

Enhancing
network
capability



Doha, Qatar

Each principle comprises a set of processes and systems adopted by our operating subsidiaries. It guarantees that throughout each phase we:

- **Understand** what our clients and passengers want
- **Transfer** solutions that work and are adapted to local needs
- **Work with** suppliers, clients and stakeholders to continually improve results
- **Take account of** future requirements to deliver best value
- **Capture lessons** learnt and share successes.

To assist our teams on the ground, we provide a wealth of central knowledge and support, including research centres staffed by our leading engineering, safety, operations and customer service specialists. A team of project experts from our Tram Excellence Centre (see p.20-21) advises every new business. Our success is evidenced by a record of world class performance and continuous improvement, from Canada to China.

PRINCIPLE #1

EARLY ENGAGEMENT WITH AUTHORITIES

Keolis engages constructively with public transport authorities (PTAs) by offering expertise and proven solutions to support them in the design of new tram networks. These contributions help our clients obtain reliable, integrated public transport services at lower lifecycle costs, and bring extra vitality to their communities.

“We are working beyond our contract by using our experience of integrated transport to help deliver our client’s aspirations for the overall transit network.”

Ian Cushion,
General Manager, Keolis Waterloo

DESIGNING EFFICIENT, HIGH PERFORMANCE TRAM NETWORKS

Our international experts work proactively with PTAs and project partners to add value to network design. Early involvement includes offering design reviews and running specialist workshops to help ensure services will be:

- Safe (e.g. segregated from road traffic wherever possible)
- Fast (e.g. traffic light priority)

- Convenient (e.g. tram stop access and layout)
 - Reliable (e.g. robust infrastructure, location and design)
 - Considerate to residents (e.g. low noise)
 - Environmentally efficient (e.g. in energy use)
 - Good value (e.g. fewer trams needed).
- We work with the network constructor during design and construction, giving PTAs confidence that the optimal result will be achieved.



OUR EARLY ENGAGEMENT WITH PUBLIC TRANSPORT AUTHORITIES

Understanding clients' priorities for their city

World-leading experts with local knowledge

Constructive feedback based on proven solutions

Transparent and open dialogue

Looking beyond our contract

Adding value to clients' investments



INTEGRATING TRANSPORT TO MAXIMISE GROWTH

We offer clients our experience of setting up tram lines to be the backbone of integrated transport networks. We study the extent to which services fulfil demand and reflect lifestyle choices across the city, and redesign networks accordingly with all modes working together.

In the aim of growing ridership and cutting costs, our method includes:

- Redesigning networks by connecting tram lines with high frequency feeder bus routes
- Coordinating timetables and capacities
- Channelling all public transport services towards multi-modal termini with frequent connections.

MORE LIVEABLE CITIES

We work with PTAs, project partners, councils and residents to build streetscape improvements into new tram network construction plans. The developments resulting from this work can include new urban plazas, wider pavements, green spaces and new cycleways and footpaths.

TRANSFERRING INTEGRATED TRANSPORT EXPERTISE

In **Waterloo**, Canada, ever since the launch of the ION LRT system in June 2019, we have been working closely with our client, the Regional Municipality of Waterloo, and its bus transit agency, Grand River Transit, to provide safe, reliable and well-integrated mobility.

The network features joint timetables for easy connections, optimized traffic signal timings to speed up LRT service, and integrated bus and LRT security.

On the **Gold Coast** in Australia, we participated in integration workshops to share our experience with the PTA. Network redesign included turn-up-and-go bus lines feeding into tram stops from areas that previously had few services.



Waterloo, Canada

PRINCIPLE #2

SECURING SMOOTH LAUNCHES AND TAKEOVERS

Since 2017, Keolis has launched ten new tram systems which have performed impressively since opening. Over the same period, we have also seamlessly taken over three existing networks. Our tried and tested approach in launching and taking over large-scale operations has proved highly successful on every occasion.

TRANSFERRING PROVEN PROCESSES AND KNOWLEDGE

Our processes for **new launches** include:

- **Management training** on twinning networks, with local managers able to train their own employees, so they fully understand their network
- **Employee recruitment/training** based on tested and proven mobilisation schedules
- **Trial run tests** based on Keolis best practice (e.g. safe driving at road junctions).

For **takeovers**, processes focus on key tasks for seamless service continuity

including:

- **Employee transfer** – early, accurate communication for strong workplace relations
- **IT** – our highly skilled teams replace the outgoing operator's IT systems and ensure systems work faultlessly
- **Day 1 readiness** – audits and briefings ensure all people and equipment are prepared and in the right place.

For ongoing support, we twin new businesses with the last company we launched or took over and assign our international experts to local teams.

→ 16

new tram networks and takeovers since 2009



Dubai, UAE

BUILDING ROBUST, LEAN SUBSIDIARIES

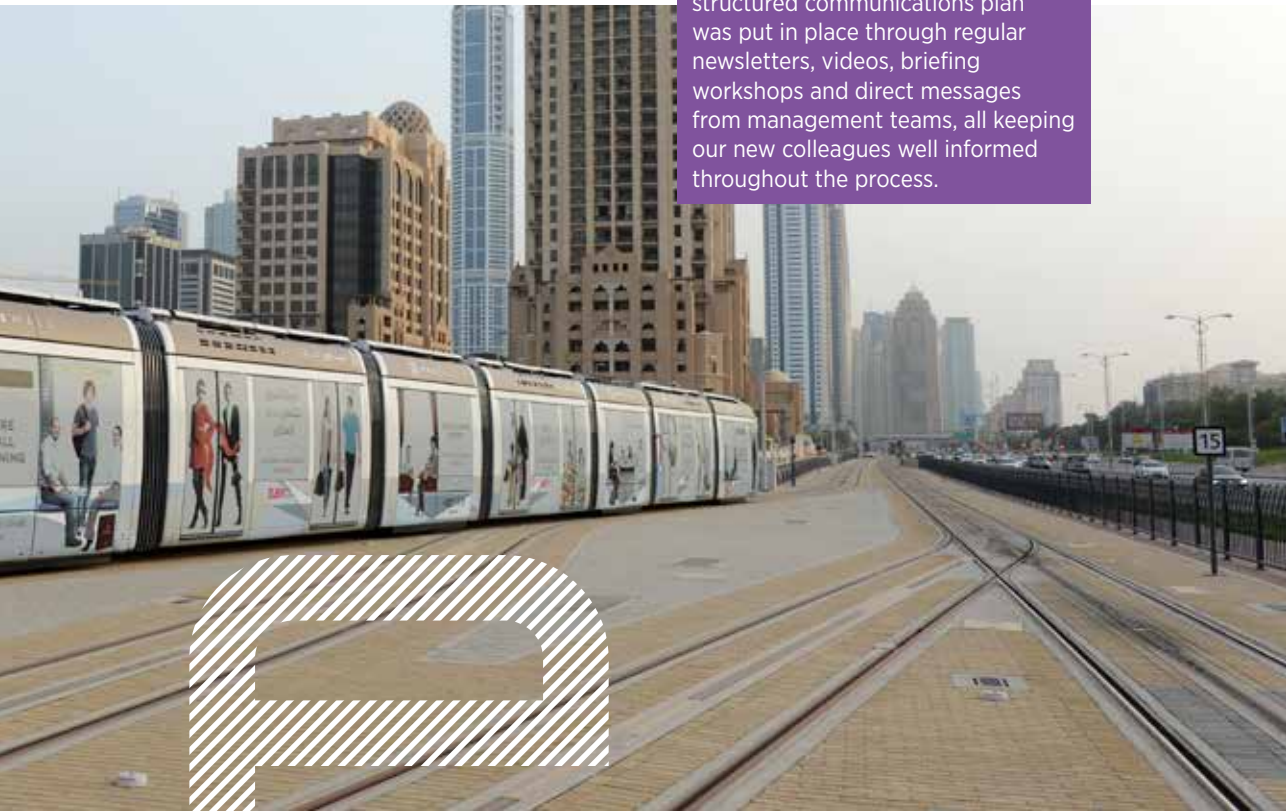
Keolis adds value for PTAs and passengers by creating flexible, agile workforces. Well-sized teams with multi-skilled employees improve service resilience, customer experience and cost effectiveness. Our open plan depots mean all employees work as one team and understand their impact on service delivery. We work with trade unions to smoothly integrate workforces following takeovers. Employee satisfaction is reflected in the good results of our engagement surveys.

ENSURING SAFETY AND QUALITY FROM DAY 1

On **new launches**, we engage with road and highway agencies to maximise tram reliability in traffic; with project partners to coordinate tasks, and with communities on the safe use of the network. For **takeovers** we build cooperative relationships with the outgoing operator (e.g. for employee communication) and with the PTA to resolve any issues.

SMOOTH TRANSITION OF 1,850 EMPLOYEES IN DUBAI

In September 2021, we took over the **Dubai** metro and tram networks, the backbone of the city's transport system. During a seven-month preparation phase we dedicated a mobilisation team to achieve a smooth transition and a successful takeover. We also welcomed 1,850 employees from the previous operator into the Keolis family. A structured communications plan was put in place through regular newsletters, videos, briefing workshops and direct messages from management teams, all keeping our new colleagues well informed throughout the process.



PRINCIPLE #3

THINKING LIKE A PASSENGER

All Keolis businesses have adopted our Thinking Like a Passenger approach, delivering world class customer satisfaction and continuous improvement. The results are driven by a customer service culture and deep understanding of our passengers.

→ **95-99%**
passenger satisfaction
in Nottingham

ALL TRANSPORT SOLUTIONS IN ONE APP

In **Lille**, ilévia is changing the way people travel. The app covers all available modes of transport including bike sharing, on-demand services and regional trains, which passengers can also use with their ilévia ticket. It also provides route search options, real-time passenger information and M-Ticket purchasing and validation services, all available on a phone.

ENHANCING THE CUSTOMER EXPERIENCE

Our companies create a customer service culture running through the organisation from tram stop up to boardroom. We build customer experience into every aspect of our business and expect everyone to 'put themselves in passengers' shoes'. In practice, this translates into:

- High passenger comfort – an attentive driving style
- Clean trams – including adapting cleaning services to the weather conditions
- Useful, real-time and on-demand information
- Employee availability, where they are needed most.

Our customer culture is founded upon a comprehensive understanding of local specificities. We build solutions and services in collaboration with our customers, employees and public transport authority partners. Passengers lie at the heart of our service culture approach. Our Keolis Signature Service initiative, tailored to each network and culture, revolves around concrete and measurable service gestures that are visible for customers. We encourage our employees to act as

ambassadors for the full range of transport services available across the region.

INCLUSIVE SERVICES FOR ALL PASSENGERS

We design services to be usable not just by the 'average passenger', but to every passenger, whatever their needs. Our operating companies meet stakeholders to understand different requirements, then modify services, staffing and training. In conjunction with our PTA clients, we also run initiatives such as helping people with reduced mobility adopt and become familiar with the transport network.

PERSONALISED MOBILITY SERVICES

Our ultimate aim is to offer fully personalised transport, using IT innovations to remove all uncertainty and inconvenience. With its extensive knowledge of the transport environment and technological tools available, Keolis helps PTAs define and deploy customised services and select the best partners. Each mobility-as-a-service (MaaS) solution designed by Keolis places the passenger at the centre of its considerations and is aligned with the local authority's overall mobility policy.



PRINCIPLE #4

OPTIMISING OPERATIONAL PERFORMANCE

Our planning and service delivery expertise places the operational performance of our tram networks among the best in the world. From new lines to some of the world's oldest, our passengers benefit from ever safer and more reliable travel year after year.

ACTING ON OUR ZERO HARM PROMISE

Safety is the top priority of all Keolis employees. From that foundation, our businesses develop their safety culture based on:

- annual action plans reviewed by Keolis experts
- investigating every incident no matter how small
- safety ambassadors to observe working practices

Each company has ongoing campaigns to reinforce safety culture, question how we work and raise

awareness of how to travel on the tram and behave in the vicinity of tram lines.

CONTINUALLY IMPROVING OPERATIONAL PERFORMANCE

All Keolis companies embed high performance in their day-to-day operations from planning to service delivery. We adapt timetables to seasonal conditions, our maintenance systems anticipate and prevent faults, and we manage operations in real-time (for example, drivers have



Bordeaux, France

radio support and therefore can fix most tram faults). Daily and weekly reviews assess how to improve incident responses and anticipate potential problems.

EFFECTIVE PLANNING FOR SPECIAL EVENTS

We meet the needs of our PTAs and passengers at sporting and cultural events by:

- scheduling maintenance so trams are available to increase service frequency

- managing passenger flows to ensure platform safety
- reviewing plans with PTAs to ensure the best service for the city.

Alongside annual events such as sporting competitions or exhibitions, Keolis also deals with historically exceptional ridership for one-off events such as WorldExpo 2020 in Dubai or the 2018 Commonwealth Games on the Gold Coast, Australia.

SAFE TRANSITION TO LARGER NETWORK

In **Nottingham**, we applied our safety expertise when we opened two extensions in 2015. This expertise included installing systems to manage and monitor new assets and facilities, as well as a prelaunch 'Think Tram, Think Safety' rolling out campaign for the new lines and surrounding areas. Through a two-year investment, Nottingham Express Transit became the first tram network in the UK to obtain ISO 55001 certification which recognises the quality of its asset management processes.

CONTINUOUS PUNCTUALITY IMPROVEMENTS

On the **Gold Coast**, Australia, we have continually improved punctuality since the network launched in July 2014, achieving a rate of 96.7% in 2021. Initiatives include monitoring performance data for issues, training to manage small delays in real time, sharing drivers' knowledge and feedback, regular cross-departmental analysis and working with city authorities for efficient on-street operation.



PRINCIPLE #5

ENHANCING NETWORK CAPABILITY

Following a substantial dip during Covid, ridership has on many networks returned close to pre-pandemic numbers. With population rising in big cities and urbanisation accelerating, Keolis is responding with innovative operational and asset management solutions to accommodate demand and meet passenger expectations at an affordable cost to our clients.

INCREASING SPEED TO CREATE NEW OPTIONS

All our subsidiaries investigate ways to improve average service speed.

Joint projects with PTAs and highway authorities include adapting traffic light priority systems for trams without adversely affecting other road users, and improving the placement of speed limit signs. We also focus on improving departure times at stops with initiatives including refresher driver training to reduce dwell times, managing passenger flows at high demand stations and tram modifications to allow doors to open and close faster.

INNOVATIVE TIMETABLES TO ACCOMMODATE GROWTH

We work outside our contracts to identify new ways to accommodate growth without requiring capital investment from PTAs. Our timetabling solutions to increase frequencies with modest investment include:

- Dedicated short distance services on the busiest parts of the route
- Moving from fixed departure times on high frequency networks to metro-style interval timetables.

When presenting the case for change to clients, we provide a technical assessment of any infrastructure

requirements, a passenger impact study, and a plan showing how we will operate new service patterns reliably.

ASSET DEVELOPMENT TO MEET EMERGING CHALLENGES

Our asset management plans look beyond our role as network maintainer to offer clients choices on efficient asset renewal. We consider whether remodelling infrastructure (e.g. termini and road junctions) would increase speed, capacity and reliability at efficient cost. In addition, we trial technology to manage demand and improve passenger comfort.



DIGITAL ASSET CONDITION MONITORING

In **Manchester**, UK, several innovative digital systems have been deployed to evolve the approach to managing network assets, reducing the dependency on manual inspections and allowing skilled employees to focus on reliability improvement and innovation. Through a continuous remote monitoring solutions for pantographs, wheels, rails and catenaries, the engineering team can implement a tailored asset management strategy shared with the PTA to improve operations and maintenance activities.

METRO STYLE TIMETABLE

In recent years, the **Dijon** tramway has seen ridership growth of 5% per year. To avoid saturation in the trams, Keolis Dijon Mobilités worked hand-in-hand with PTA Dijon Métropole to optimise the operation of the network without increasing the number of vehicles in service. The creation of new tracks and the improvement of links at junctions are planned, as well as more equipment that allows the trams to circulate more smoothly during peak hours.



EXPERT SUPPORT FROM OUR TRAM CENTRE OF EXCELLENCE

The Keolis Centre of Excellence harnesses the full potential of the Group's worldwide expertise in tram networks by sharing lessons learnt and best practices.

—→ **NEW BUSINESSES**
twinned with existing high
performance networks

—→ **EXPERT MENTORS**
assigned to new operations

—→ **READINESS AUDITS**
to ensure safe high
performance operation

TRAM EXCELLENCE CENTRE EXPERTISE

The centre's team of light rail experts and project managers have extensive knowledge and experience of:

- tram network design
- performance management and modelling to improve speed, punctuality and capacity
- operation and maintenance costing
- rolling stock maintenance, refurbishment and renewal
- infrastructure maintenance (e.g. signalling, track, power supply)
- ticketing, fare collection and passenger information systems

Advice is available to our subsidiaries as needs arise.

ASSISTANCE TO NEW BUSINESSES

The centre plays a key role in assisting our new businesses in preparing for passenger service and beyond. On **new-build networks** a team of experts carries out readiness audits one year and then three months before launch date to advise on any risks that need to be

addressed and assess progress against schedule.

A further audit at the end of the first year assesses whether operations and safety management could be improved, drawing on Keolis best practices. In addition, the centre arranges operations and safety training for all managers at a similar network in France with a record of high performance. The sessions also assign expert mentors to our new management teams.

When we **take over existing networks**, a readiness audit takes place three months before transfer, which includes an assessment of the outgoing operator's performance. A further audit six months into the new contract measures progress and opportunities during the crucial change management period in which Keolis systems and best practices are deployed.



KNOWLEDGE TRANSFER FOR BESANÇON TRAM NETWORK

In Besançon, France, the local management team drew on the expertise and knowledge of our Metro-Tram Centre of Excellence for the takeover of the operation and maintenance of the city's tram network. To ensure a smooth transition and notably take vehicle maintenance in-house, the Keolis team in Besançon was able to count on experience and expertise shared by subsidiaries in Lyon, Dijon, Lille and Tours during its first three months of operation. The local team was supported by experts at the Centre of Excellence who detected faults and helped the teams adjust their plan and scope of actions for maintenance work.

“The availability of knowledge and expertise from Keolis's Tram Excellence Centre has been essential in our preparations to operate Denmark's first light rail network. Whenever we have needed help we have received it.”

Thomas Friis Brændstrup,
CEO, Keolis Aarhus



WORKING WITH AUTHORITIES AT EVERY STAGE OF THE TRAM LIFECYCLE

KEOLIS'S FIVE PRINCIPLES AT A GLANCE

PRINCIPLE #5 ENHANCING NETWORK CAPABILITY

- Increasing speed to create new options
- Innovative timetables to accommodate growth
- Asset development to meet emerging challenges

PRINCIPLE #1 EARLY ENGAGEMENT WITH AUTHORITIES

- Designing efficient, high performance tram networks
- Integrating transport to maximise growth

PRINCIPLE #2 SECURING SMOOTH LAUNCHES AND TAKEOVERS

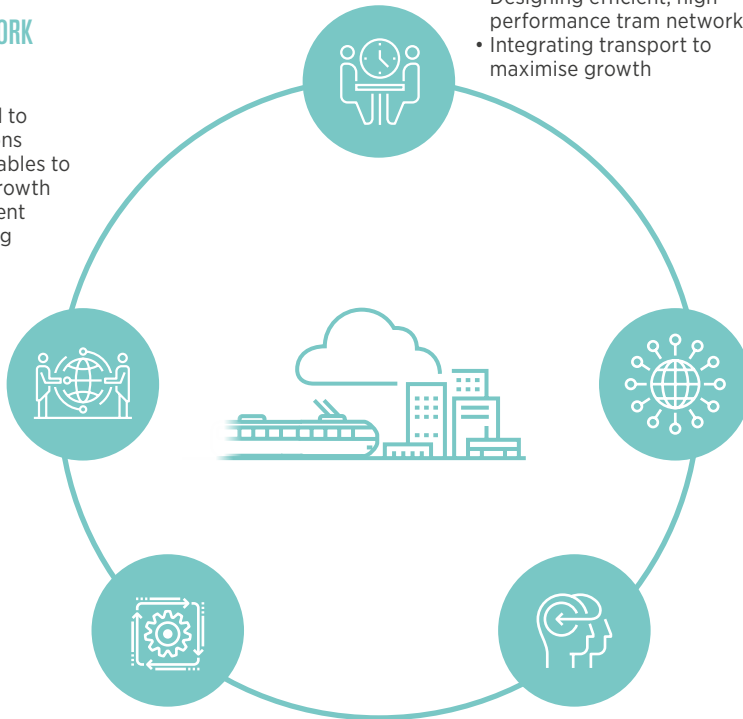
- Transferring proven processes and knowledge
- Building robust, lean subsidiaries
- Ensuring safety and quality from Day 1

PRINCIPLE #4 OPTIMISING OPERATIONAL PERFORMANCE

- Acting on our zero-harm promise
- Continually improving operational performance
- Effective planning for special events

PRINCIPLE #3 THINKING LIKE A PASSENGER

- Enhancing the customer experience
- Inclusive services for all passengers
- Personalised mobility services



TO FIND OUT MORE

For more information on our service offer,
visit the tram page of www.keolis.com



Design : MEANINGS

Photo credits : Keolis Tours, RKH Qitarat, Keolis Downer, Keolis North America, Keolis MHI,
Keolis Bordeaux, Keolis Amey Metrolink, Keolis Orléans



CONTACT

Keolis – 34 avenue Léonard de Vinci,
92400 Courbevoie - France

T. +33(0)1 71 32 90 00

www.keolis.com