



#TechifyMobility2020

Are you interested in solving mobility challenges using emerging technologies?

The Rwandan Utilities Regulation Authority (RURA), in partnership with the DigiCenter and with the support of Impact Hub Kigali, is launching the #TechifyMobility2020 Challenge to support the development of innovative mobility solutions that leverage emerging technologies, such as IoT, big data, Artificial Intelligence, blockchain, 3D printing and AR/VR.

The Challenge will bring up to 12 teams and/or startups/companies to develop solutions to improve the public transport, enhance the commuters' experience as well as to generate new mobility options for urban dwellers.

From the 12 participating teams, up to five teams will be selected to receive financial support and further mentorship to continue developing their solutions and compete for exclusive contracts and scaling up support.

The Challenges

Intelligent public transport

Enhanced commuters' experience

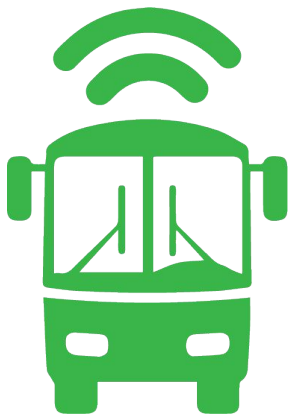
New mobility: on demand and shared mobility

First mile distribution of goods

Description of the problem statements:

1.Intelligent public transport

How to enhance the performance of the public transport system in the City of Kigali? How to allow RURA to better manage, operate and optimize the existing bus network?



The City of Kigali is currently in the 5th year of implementing the Kigali Urban Master Plan. As part of this process, significant improvements to key elements of the urban mobility network and urban mobility systems are being planned or are already underway. RURA has put in place a bus network to enhance the quantity and quality of public transport services provided in the City of Kigali. However, RURA faces challenges to ensure the effectiveness of the transportation network. As RURA inspectors can't be in all places all the time, field inspections are not efficient and cost a lot of resources for RURA. Furthermore and despite all effort made in digitizing the transport sector, systems are still in silos and don't exchange information. For instance, seven platforms with different functionalities and not interconnected exist to monitor overspeeding vehicles, making the tracking process highly inefficient.

RURA is looking for solutions to better manage, operate and optimize the operational effectiveness of the existing transportation infrastructure. Smart mobility solutions under this category can improve public transportation's reliability, journey time, comfort, convenience, accessibility and connectivity. Part of the effort needed is to have the ability to monitor and track public transport performance beginning with bus routes in the City of Kigali.

Under this category, participants can look at the **following 2 sub challenges**. Your solution may address either one of them or the two at the same time.

- **Fleet management system**

A solution to help operators organize and manage their fleet to keep all their operations running smoothly. This system will assist operators as well as provide RURA with real time information for better management, monitoring and planning of public transport in the City of Kigali.

The system will be able to:

- a) Track bus fleet movements through the speed Governor devices
- b) Provide information on routes, estimated time of arrivals (ETAs) of buses, as well as locations of buses to the PMS and the PIS

- **Driver management system**

Implementing a driver management system allows public transport operators to get a comprehensive look at their drivers, their productivity and the overall safety of their assets.

A driver management system can automatically upload vital information for the fleet, such as fuel usage and telematics data. This way, operators are able to receive real-time data on the drivers and assets and clearly identify the areas to improve. RURA, on its end, is able to use this information for better monitoring and management of the entire public transport network.

The system should be able to:

- a) Uniquely identify the driver and bind him/her to the vehicle he/she is driving
- b) Measure the driver performance by covering the full range of driving metrics:
 - Safety: speeding, hard braking, harsh acceleration, seat belt use
 - Economy: unproductive idling, unnecessary fuel use
 - Productivity: late start, time on site and early arrivals

2. Enhanced commuters' experience

How to improve the experience of commuters in the City of Kigali?

This category looks into solutions that aim at improving the mobility experience for users by sharing information, allowing journey planning and integrating various forms of transport into a single mobility service.

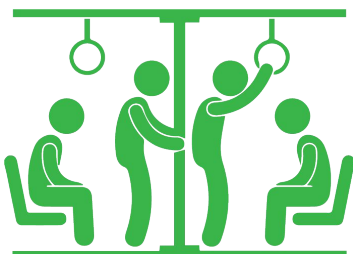
It includes the **following sub-challenges**. Your solution may address either one of them or more simultaneously.

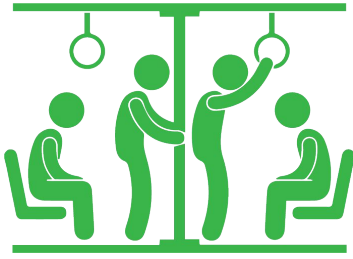
- **Journey planning apps**

Provides plans for buses and taxi services and combines them into easy to read journey plans. The app acts like a door-to-door route planner and has information about scheduled departures and trips near your current location, and from any specified point.

- **Public information display**

Public information display monitor serves to display bus information for passengers at bus stops and terminals.





- **Mobility as a Service**

Mobility as a Service (MaaS) is the integration of various forms of transport services into a single mobility service accessible on demand. To meet a customer's request, a MaaS operator facilitates a diverse menu of transport options, be they public transport, ride-, car- or bike-sharing, taxi or car rental/lease, or a combination thereof. For the user, MaaS can offer added value through use of a single application to provide access to mobility, with a single payment channel instead of multiple ticketing and payment operations. Consumers are empowered to handle all aspects of their journey – from planning to payment.

3. New mobility: On demand and Shared mobility solutions

How to enhance commuting while decreasing traffic congestion? How to increase affordable travel and greater access for all?

With growing numbers of people living in urban areas, providing a sustainable response to the mobility demands of urban dwellers is a priority. Rwanda faces particular transport challenges linked to high-density urban areas and high costs of transport, which impact commuters' mobility and the costs of doing business.

Shared mobility options are increasing in Africa, including ride-hailing and ride-sharing services as well as app-based motorcycle services. Shared mobility services are providing communities with more travel choices, and their popularity is beginning to challenge long-held beliefs about the need to own a vehicle for personal mobility. Shared mobility can also serve an important role in connecting commuters to main transport station areas, like public transport stops and motorcycle/taxi stands, facilitating first and last mile connectivity.

Shared transport refers to a demand-driven vehicle-sharing process where travelers share a vehicle (e.g. cars, bikes, motorcycles, scooters, etc), either at the same time (e.g. ride-sharing) or over time (e.g. bike sharing or car sharing). In this arrangement, travelers share the cost of their journey, providing a hybrid between public transportation and private vehicle use.

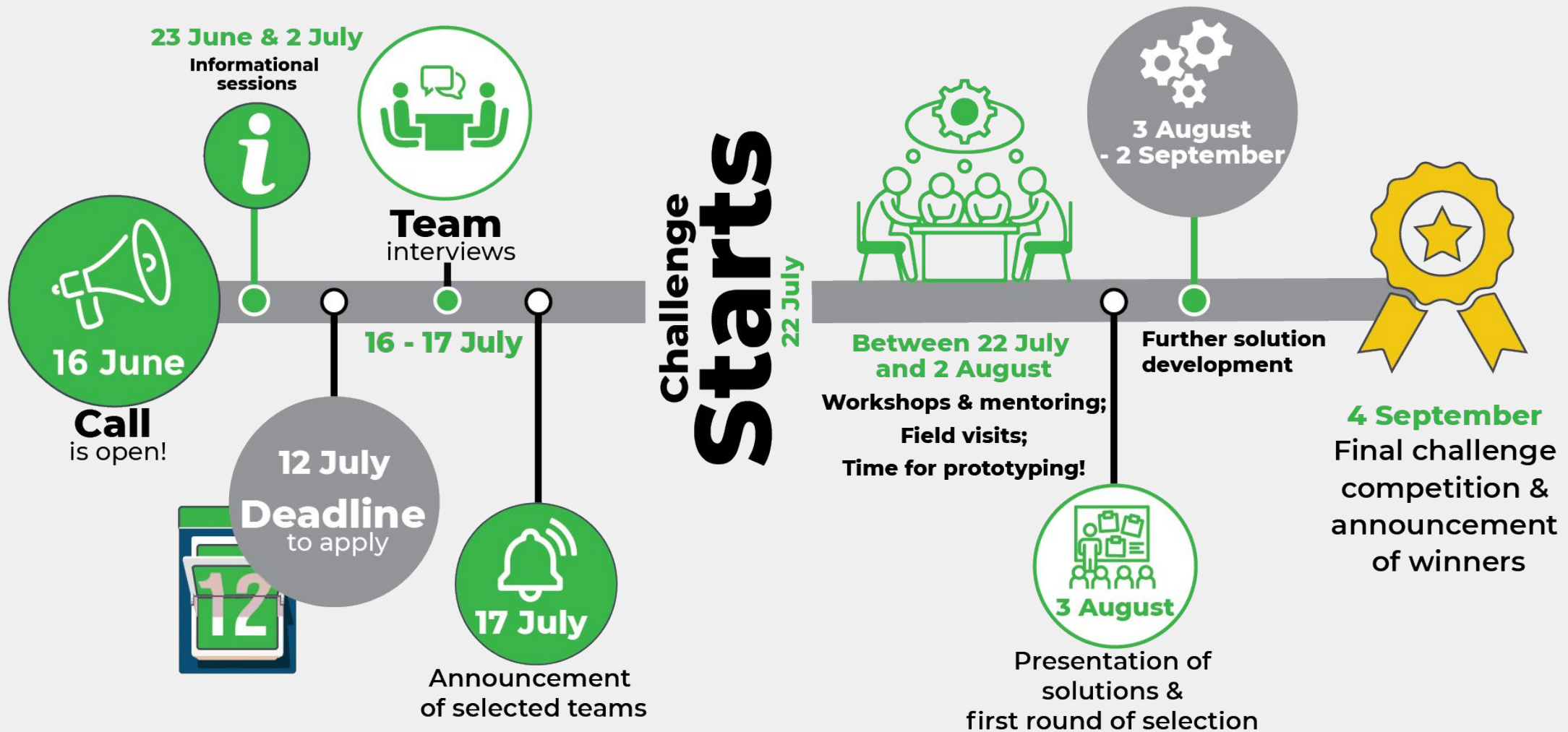


4. First mile distribution of goods



The movement of goods and services are essential for economic activity in Rwanda. How to improve the first mile distribution of goods? How to ensure the movement of products from the production place to a logistics service point or distributor? Different digital solutions are focusing on the last mile transport and distribution, but not much attention has yet been paid to the first mile side.

Timeline



The Challenge Program

Teams work on solutions



22 July - 2 August

Up to 12 teams will work on the development of their solutions and will receive support from the challenge organizers.

There will be:

- Workshops & working sessions [during 2-3 days]
- Walk-in clinic and access to mentorship [spread over the 1.5 weeks]
- Field visits [optional]
- Time for teams to work on their prototypes [at the DigiCenter space, IHK or from their homes - whatever is more convenient for the teams]

Presentation of solutions & first round of selection



Monday, 3 August

All participating teams will present their solutions to a panel of judges and show the progress made after 1.5 weeks of working on their solutions.

Up to five teams will be selected to continue to the second stage of solution development.

Further solution development



3 August - 2 September

Up to 5 teams will work on further developing their solutions over a period of 4 weeks.

They will receive financial support [based directly on relevant expenses they incur] as well as further mentorship assistance.

Final challenge competition & announcement of winners



4 September 2020

Up to five teams will present their solutions to a panel of judges. Winners are selected and announced.

Benefits & Awards

All participating teams will benefit from:

- Coaching and mentoring
- Workshops and field trips
- Networking with mobility stakeholders
- Access to working space (DigiCenter and Impact Hub)
- Reasonable travel stipends and Internet Bundles (up to 50 GBs) upon request



Up to 5 teams will be selected to continue to the **second phase of solution development and to pitch at the Final Challenge Competition**. These 5 teams will receive:

- **Access to working space**
- **Mentorship**
- **Financial support** - GIZ will support each team with a maximum of 3M Rwf. The financial support will be granted only for expenses incurred in the development of the solutions (software development services, cloud services, hardware parts, trials, piloting, organisation, user studies, etc.). Additionally, the teams will be reimbursed for reasonable travel expenses.
- Connections with industry players



Final Challenge Competition Awards

Top teams will have the opportunity to win:

- **Financial and technical support customized to the further development and implementation of their solution**, through a **negotiated contract with GIZ**, and for a duration of 6 to 12 months. The targets for the progress, the schedule, collaboration and the payment details of the awarded sum are among the details specified in the agreement. The awarded sums will be paid in instalments.
- **Support from Make-IT** for scaling up the solution and be investment ready
- **Workspace** at the DigiCenter and Impact Hub Kigali
- Support in accessing specific software development/cloud services or purchasing specific Hardware parts/components if applicable
- Opportunity to attend the **Africa Mobility Summit in Nairobi, Kenya**

How can you apply?

To submit your application, click here: <https://bit.ly/TechifyMobility2020>
Applications are open until **11PM on Sunday, 12 July 2020**.

Eligibility

The applications are open to teams and/or startups based in Rwanda who are interested in leveraging emerging technologies to solve mobility challenges.

- Applicants must apply in teams of **minimum 3 and maximum 4 people**. Preference will be given to teams that are **gender-balanced and that combine skills** and expertise in emerging tech, software/hardware development, business and management, and the transport sector.
- Applicants must **choose one challenge** they wish to solve and have a **clear innovative and scalable solution** that they would like to develop
- Teams must be able to attend the workshops and mentorship sessions.
- Prior experience in developing solutions in the mobility sector are highly valuable.

Application process

Of the teams that have submitted their application by the deadline, 20 teams will be selected for the interview stage. Based on the interview stage, up to 12 teams will be selected to participate in the Challenge.

Assessment of applications

1 **References:** The team must have a good balance of different types of experience in developing innovative solutions [preferably experience in mobility solutions]

2 **Solution idea:** The team must have an innovative and scalable solution idea for solving the selected challenge.

3 **Competence and diversity of the team:** The team combines a different set of skills relevant to the challenge theme and is gender-balanced



Do you have any questions or would like support for setting up your team?

Follow the discussion related to the Challenge in the Facebook open group: <https://www.facebook.com/groups/techifymobility2020/>

Frequently asked questions

1. How do we apply?

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Applications are open until 11PM on Sunday, 12 July 2020.

2. Who is eligible to apply?

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- Applicants must choose one challenge they wish to solve and have a clear innovative and scalable solution that they would like to develop
- Teams must be able to attend the workshops and mentorship sessions.
- Prior experience in developing solutions in the mobility sector are highly valuable.

3. Can I apply on my own or do I need a team?

You must apply in a team of 3-4 people.

4. Are there any conditions for applying as a team?

Your team must have a minimum of 3 and maximum of 4 people. We encourage you to have a team that is gender-balanced and that combine skills and expertise in emerging tech, business and management and the transport sector.

5. Do I have to choose one challenge?

Yes, you must select the challenge you wish to solve when you submit your application [either Challenge 1, 2, 3 or 4]. Within each challenge you are free to address one or more sub-challenges.

6. Do we have to be in Rwanda?

Yes, you must be based in Rwanda.

7. What kind of solutions are we expected to generate?

We are looking for innovative solutions and working prototypes that address one of the four mobility challenge statements:

- Intelligent Public Transport
- Enhanced commuters' experience
- New mobility: On-demand and shared mobility
- First mile distribution of goods

8. What are the benefits?

Customized support, in the form of financial support and mentorship during the challenge. Top teams will have the opportunity to win a contract with GIZ for the implementation of their solution.

See the list of all benefits in Page 7 of this document.