

# NEXT GENERATION

# Mobility

*Transportation Engineering and  
Safety Conference*

**GB** CONSULT

***Pennoni***

# INTRODUCTION

## GB CONSULT

- Global active Engineering Company with more than 25 years of experience.
- Provides a full range of engineering services, from planning and design through construction management.
- Acts as a general planner and in this field our staff summarizes all tasks included in design and construction planning. We are also responsible for site management.

**Sandija Bayot,**  
*USA Representative*  
*GB Consult*

## PENNONI

- A multidisciplinary firm, from land development to energy management, our expertise runs deep and our passion for problem-solving runs even deeper.
- Throughout five decades, our commitment to elevating the impact of our outcomes through personalized service has been steadfast.
- Our goal is to help communities and private sector clients alike navigate the ever-changing technological advancements available and learn how best to integrate “smart” solutions into the current landscape and make them a part of resilient and sustainable planning.

**Angelo Fatiga**  
*Business Development Associate/Division*  
*Manager*  
*Pennoni*



# HISTORY AND PROJECT EXPERIENCE

- System in place since 1988
- Partners with operators since more than 25 years
- World-wide experience
- More than 20 centers in operation in 12 Countries.
- Proven success in preventing accidents and fatalities
- Experience staff from Europe prepared start-up training in the United States





# TYPICAL FACILITY DETAILS

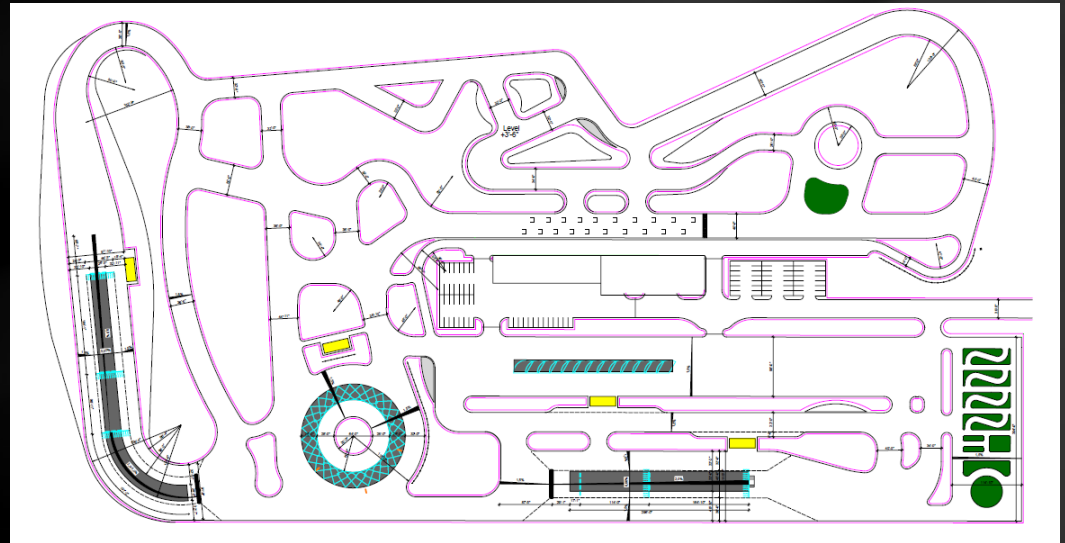
- Dimension: 36 acres
- Capacity: 20,000 participants/year
- Operating days: 350 per year
- Start up cost: \$ 12 million
- Project payback: 5 years



# WHAT ARE TEST TRACKS/DRIVER TRAINING CENTERS?

A **test track** is a multifunctional driver training facility designed to train correct behavior in daily road traffic. It provides standard training methods and the flexibility of tailor-made programs for specific needs of companies' fleets.

- Drivers learn the advantages of a defensive, foresighted driving style and are prepared to implement safe routines in daily driving.
- A track provides daily traffic situations such as different types of junctions, a hill, traffic cycles, traffic light controlled intersections, traffic signs, etc.. Parking training can also be integrated in this area.



# WHAT ARE TEST TRACKS/DRIVER TRAINING CENTERS?

## What does it include:

- Complete Package of Training Modules:
  - Skid plate
  - Circle
  - Downhill track
  - Dynamic area
  - 2-wheels area
- Technical equipment to practice different situations:
  - Obstacles (mechanical, water obstacles)
  - Remote-controlled irrigation
  - Seminar rooms for theoretical classes
- The handling track provides another possibility to utilize the facility efficiently and can be used simultaneously for road safety training and fun & events
- An off-road area for 4WD, motorcycles, trucks or quads can also be included in a driver training facility





# BEHIND THE WHEEL EDUCATION

- Rollover prevention
- Distance exercises
- Under and over steering
- Emergency braking
- Stabilization of a skidding vehicle
- Cornering
- Viewing techniques
- Stop and go exercises
- Turning maneuvers
- Optimal loading





# DRIVER TRAINING CENTERS: TRAINING MODULES

## TM<sub>1</sub> – The Skid Plate / Straight Road

- Nearly flat track (decline of not more than 2%) with two rows of water obstacles (appearing automatically when a vehicles runs over the induction loops in the road surface)
- To create a slippery surface, the low friction surface is irrigated with water overflow
- Before vehicles enter the slippery training track, they run over a hydraulically operated skid plate (rear wheels are pulled sideward, causing them to slip)
- Practicing exercises include:
  - Slalom driving
  - Emergency braking
  - Stabilizing a skidding vehicle
  - Distance exercises
  - Braking comparison



# DRIVER TRAINING CENTERS: TRAINING MODULES

## TM2 – The Circle

- Circular lanes that are suitable for all kinds of vehicles
- Two water obstacles that can block the complete track or part of it
- Practicing exercises include:
  - Circular slalom driving
  - Cornering
  - Viewing and steering techniques
  - Under and over steering behavior
  - Emergency braking while cornering
  - Rollover prevention



# DRIVER TRAINING CENTERS: TRAINING MODULES

## TM3 – The Downhill Track

- On the downhill track the behavior of a vehicle is more extreme. Brake and swerve maneuvers especially, can lead to severe over steering.
- Decline of approx. 9% that passes into a nearly flat bend to the left or right
- Water overflow system is again implemented, as well as two rows of water obstacles
- Practicing exercises include:
  - Slalom driving
  - Emergency braking downhill
  - Cornering
  - Under- and over steering behavior
  - Distance exercises and many more





# DRIVER TRAINING CENTERS: TRAINING MODULES

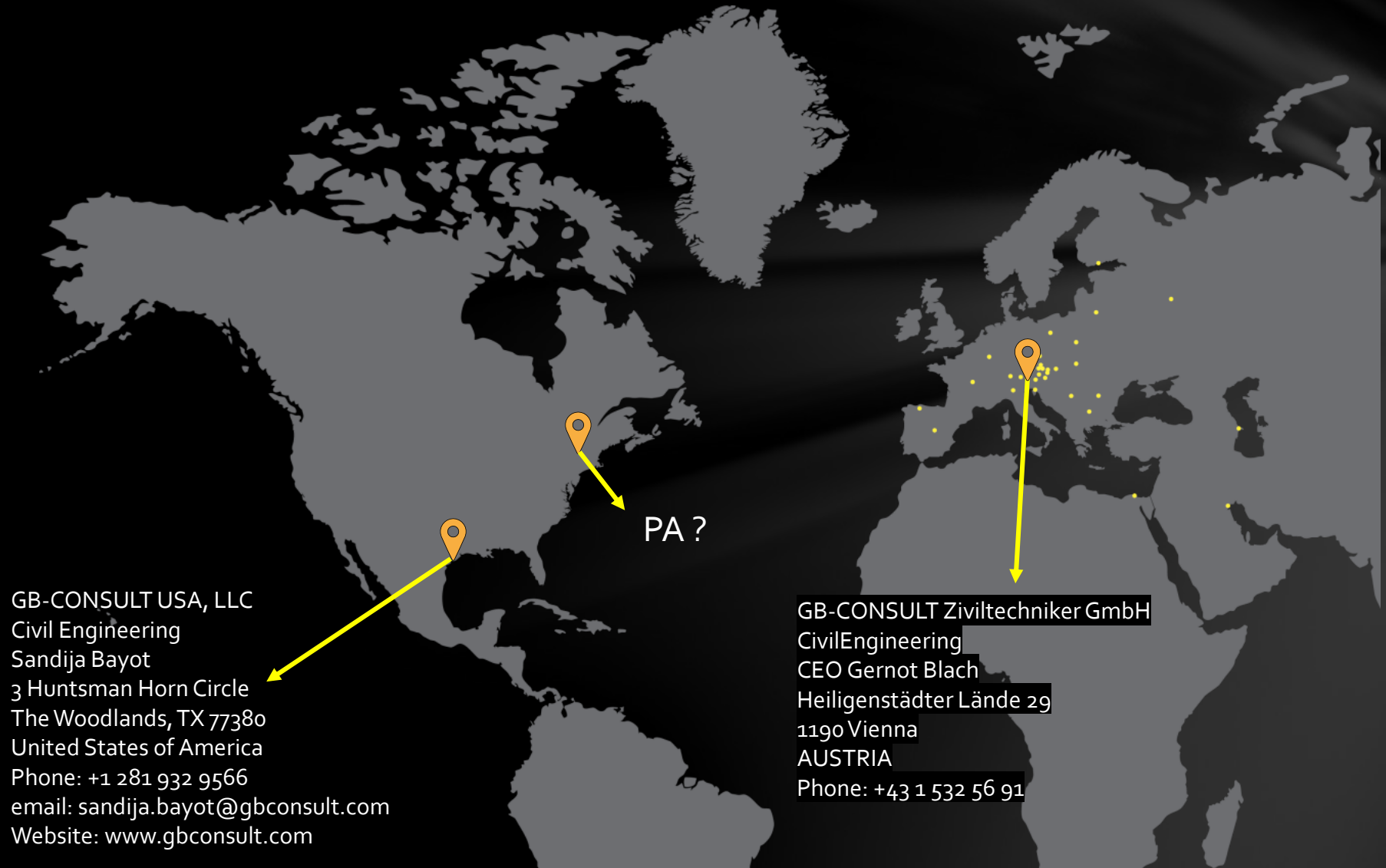
## TM<sub>4</sub> – The Dynamic Area

- The same exercises from TM<sub>1</sub> and TM<sub>2</sub> can be done on TM<sub>4</sub> with higher speed and under higher friction conditions
- Obstacles on selected positions create manifold exercises
- Practicing exercises include:
  - Slalom driving
  - Braking
  - Cornering
  - Handling
  - Viewing technique (blind-spot exercises)
  - Distance exercises
  - Rollover prevention





# LOCATIONS ACROSS THE GLOBE



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Asturias



Madrid

# FRANCE



Bresse



# AUSTRIA



Saalfelden



Marchtrenk



Graz-Lebring



Innsbruck



# AUSTRIA



Möblin-St. Veit



Teesdorf



Röhren

# AUSTRIA



Vienna



Gmünd



Kalwang



# LUXEMBOURG



Sanem



# CZECH REPUBLIC



Project Brno

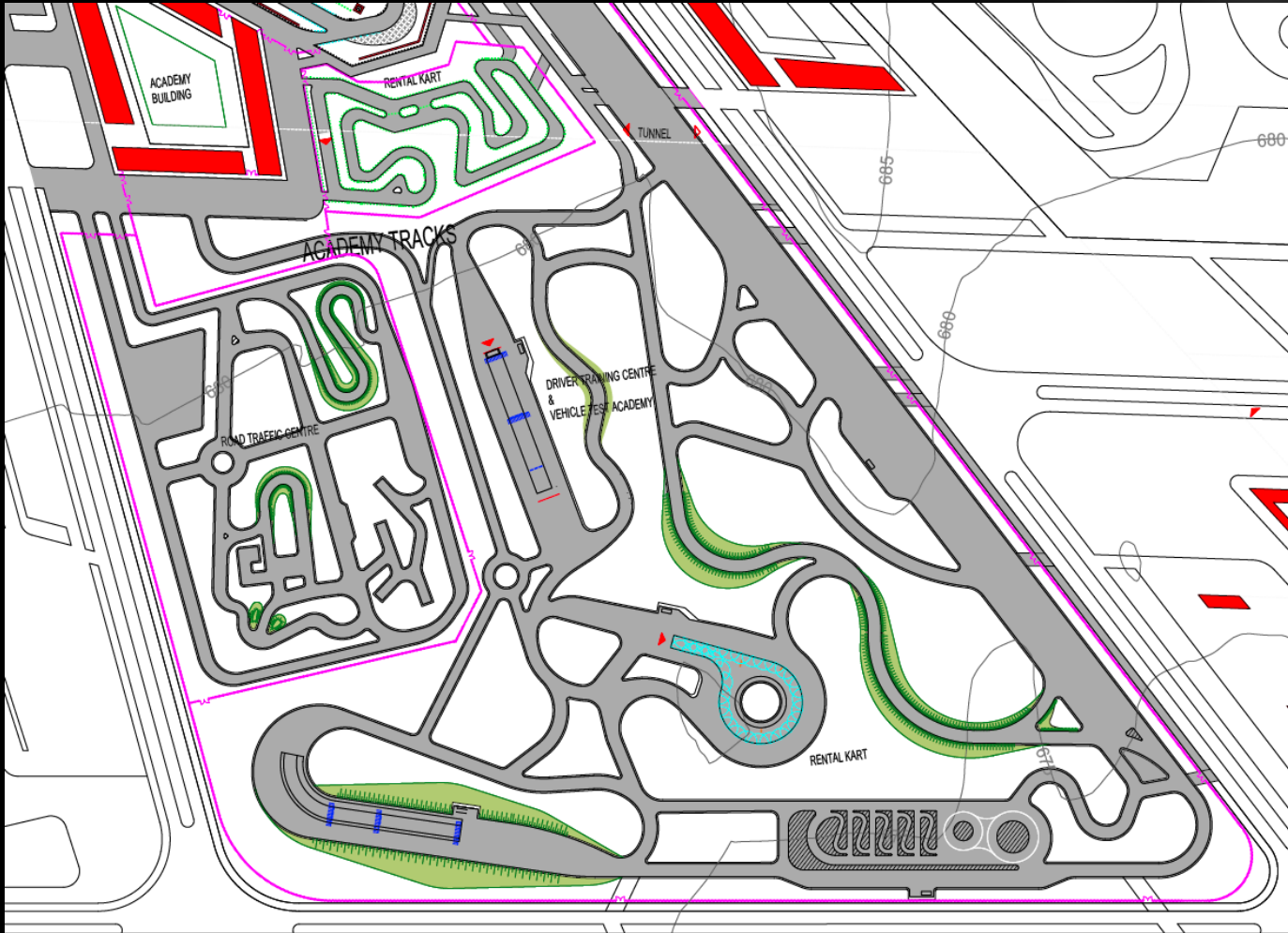


# SAUDI ARABIA



KAEC

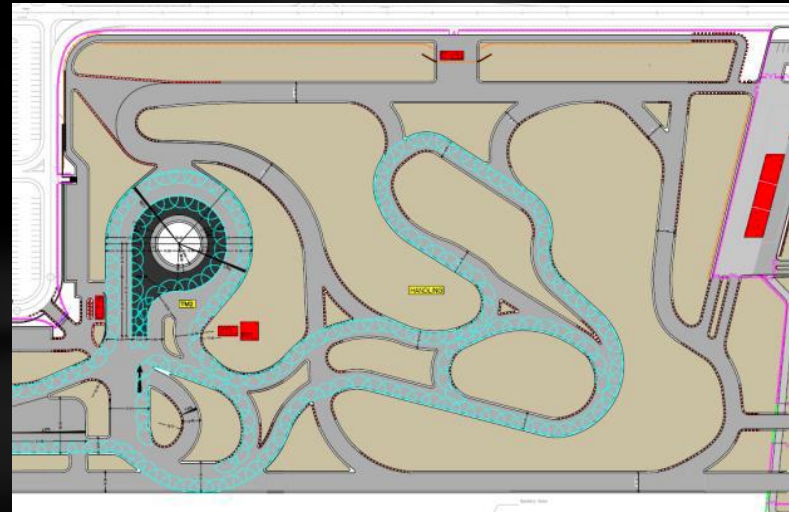
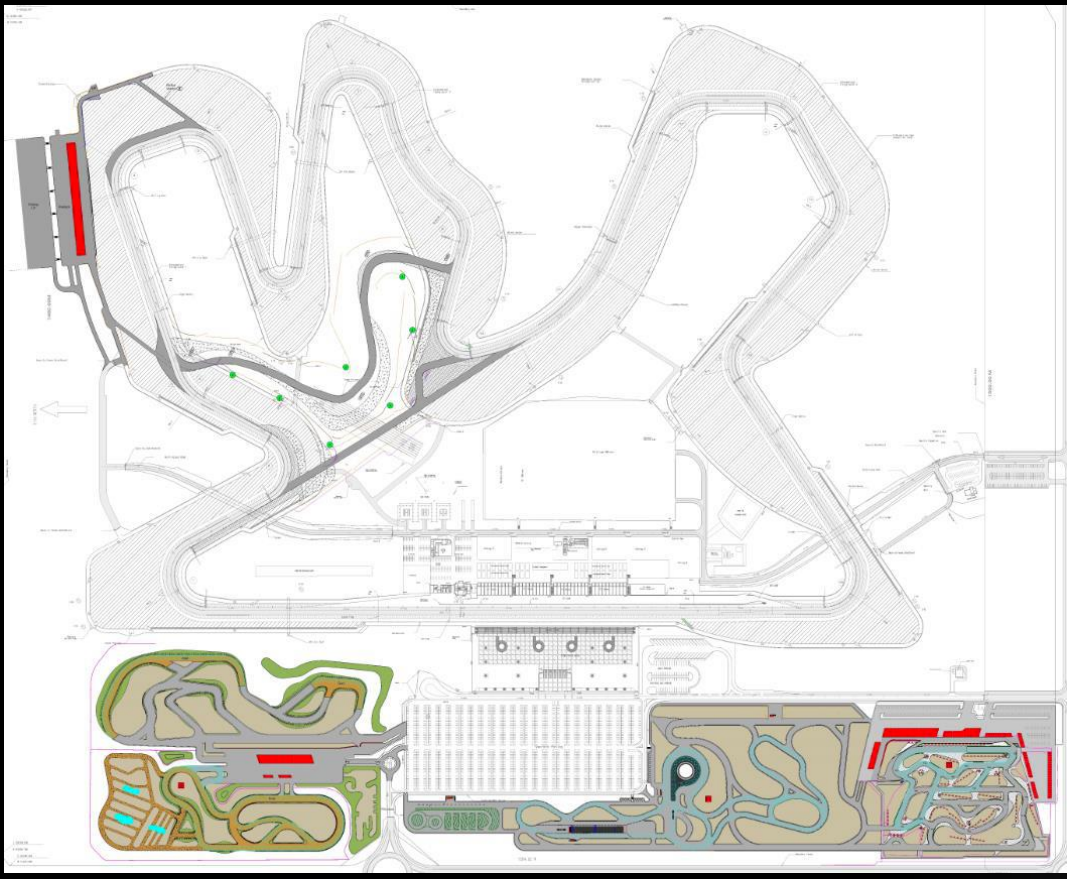
# SAUDI ARABIA



Qiddiya

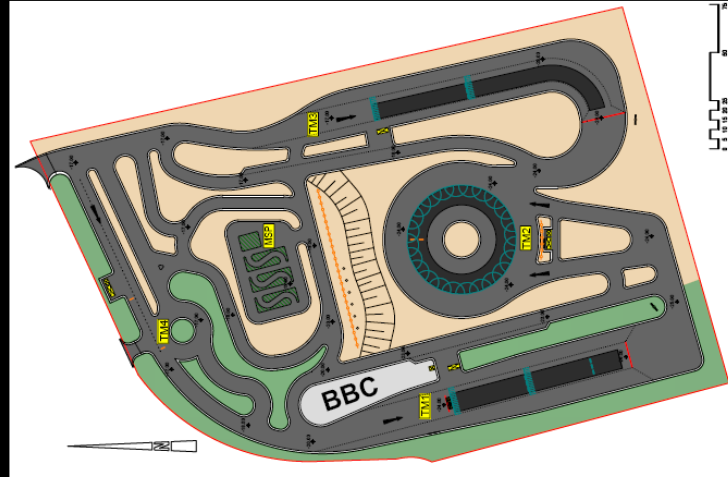


# DOHA/LOSAIL





# AZERBAIJAN



Baku



# RACETRACK WACHAURING



Melk, Austria

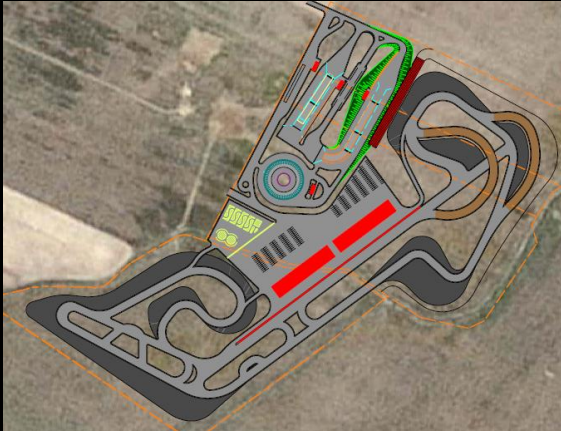
# BULGARIA



Project Aebtri



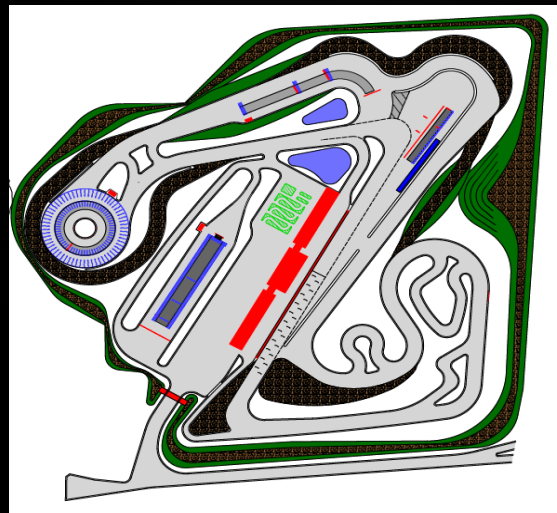
# OTHER PLANNED/BUILT LOCATIONS



Romania



Kuwait



Bulgaria

# POTENTIAL USERS

- Emergency Support Services (ie: Fire, Police, Ambulance)
- Government and Special Agencies (ie: State, County, City)
- Tractor Trailers – Trucking Industry
- Fleet Operators
- Taxis
- Bus Drivers (ie: Coach, School)
- Private and General Public
- First-time/Novice Drivers
- Violators
- Motorcycle Drivers
- RESEARCH AND DEVELOPMENT

All drivers are invited to improve their knowledge.





# STATE OF PENNSYLVANIA

Where  
can we  
locate it?

