Smart Cities Ecosystems

TDG (The Digit Group)

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Smart Cities Development
Design | Construction | Operations
Innovation Development and Delivery
Housing | Transportation | Technology | Energy | Media

Forbes

"Changing The World"

July 2018

CNBC

"An American Business Titan"

November 2017

Bloomberg

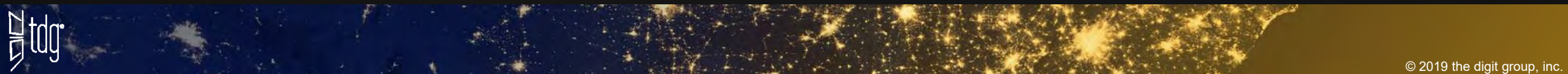
"Global Leader"

November 2017

Smart Cities Ecosystems

The Digit Group (TDG) plans, designs, builds, and manufactures holistic smart cities, using technology solutions as the basis of its designs. From the tallest of buildings to the smallest of villages, TDG creates smart cities solutions that provide greater security, increased safety, lower energy use, more efficient water management, safe and comfortable transportation, and a better urban experience. Its smart cities solutions have been implemented in China, Southeast Asia, India, the Middle East, Europe, and throughout the U.S. TDG discovers innovations, mixes these innovations together like ingredients, to create unique experiences, like recipes, for both greenfield Smart Cities and existing urban environments.

Art of the Possible



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Smart Cities Development

Innovative, High Performance Urban Environments

Smart Cities Guiding Principles

1. Energy
2. Information Communications Technology (ICT)
3. Transportation
4. Public Safety & Security
5. Green / Sustainable Buildings
6. Water
7. Waste
8. Education
9. Healthcare
10. Citizen Services

A Smart City is not a marketing campaign, a slick sales technique nor an amusing political catch phrase.

It is a series of solutions to a serious and urgent situation the world faces today.

Smart Cities are emerging as a civic action due to a "perfect storm" of the convergence of market conditions, technology innovation, social wants and government needs and the migration to urban environments that has accelerated on a global scale that dwarfs any previous mass movement of people in history.

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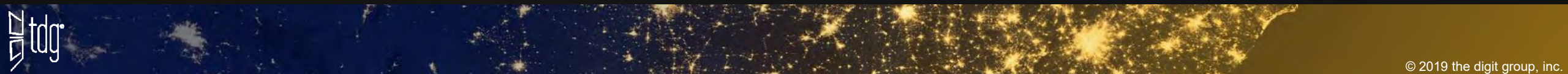
United Nations Sustainable Development Goals

Innovation Ecosystems



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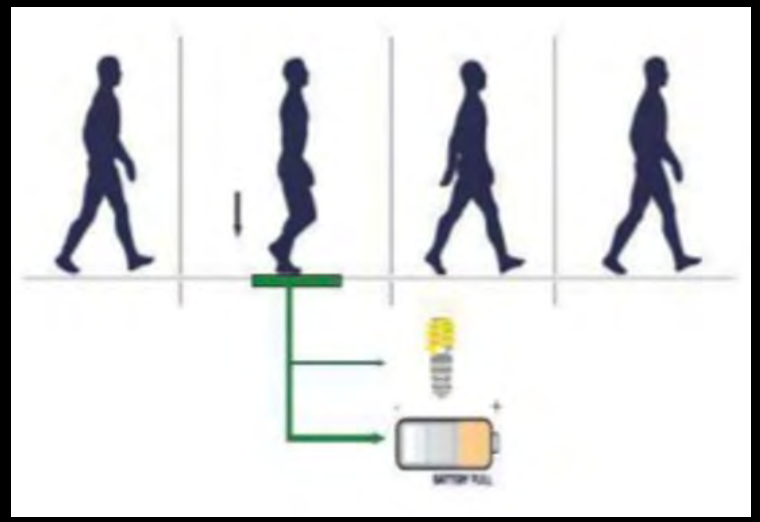
Kinetic Energy
Piezoelectric

Georgia Tech



Piezoelectric material sits underneath floor finishes like carpet, ceramic tile, wood, etc.

Dynamic Wireless Charging
Graphene Batteries

Piezoelectric is a Kinetic Energy solution that:

- Generates power from compression
- Stores and harvests this power in a Graphene Battery
- Distributes this power through wireless charging
- Captures and reports data of the exact location of the generated power dynamically

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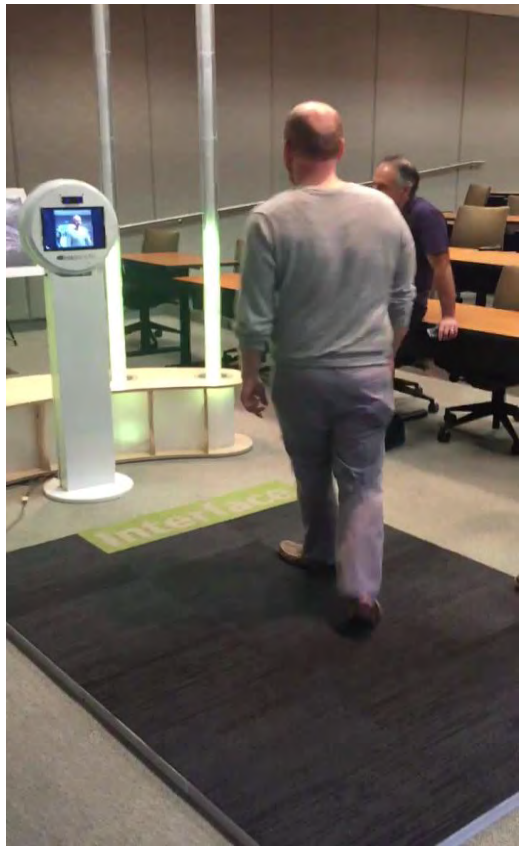

Kinetic Energy
Piezoelectric

Atlanta Hartsfield Airport: Piezo Selfie Station

NASA Kennedy Space Center Visitors Complex: Piezo Universe

Mercedes Benz Stadium (Atlanta): Concourse and Playing Field Installation

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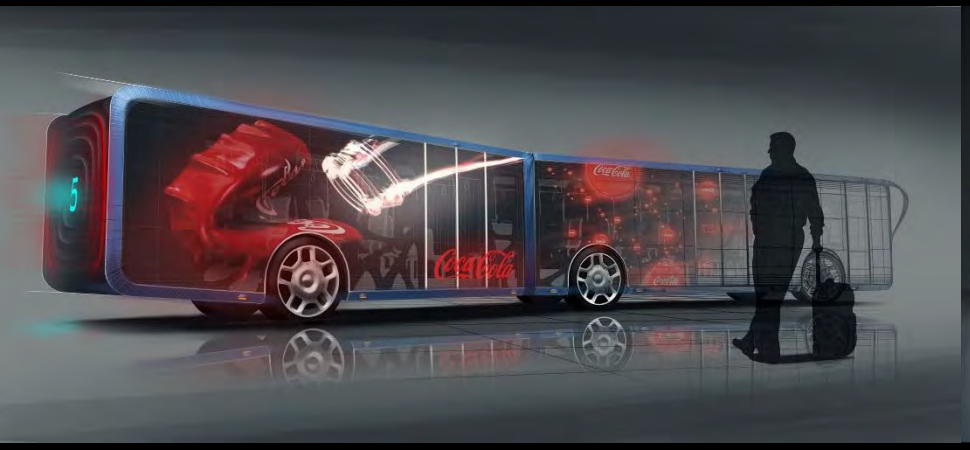
Transportation

Branded Autonomous Electric Buses



NextGEN Bus

EV/AV LED Bus

Piezoelectric / Wireless Charging

Bus Stop Sub-Station

Street Lighting

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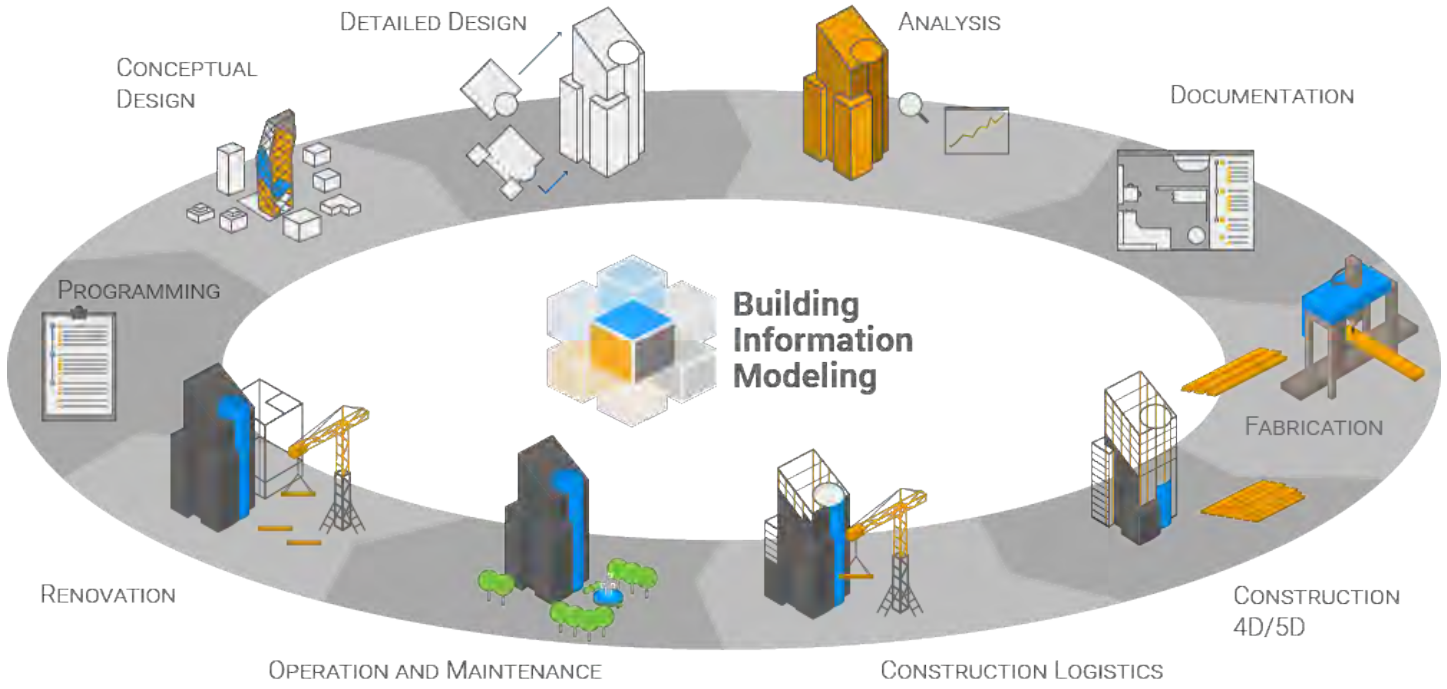
Central BIM Office

Data Management / Project Control



BIM information coordination, management and project delivery

Data Classification System

Digital DNA

Blockchain

Machine Learning / AI

Internet of Things / Sensor Management

Smart Cities

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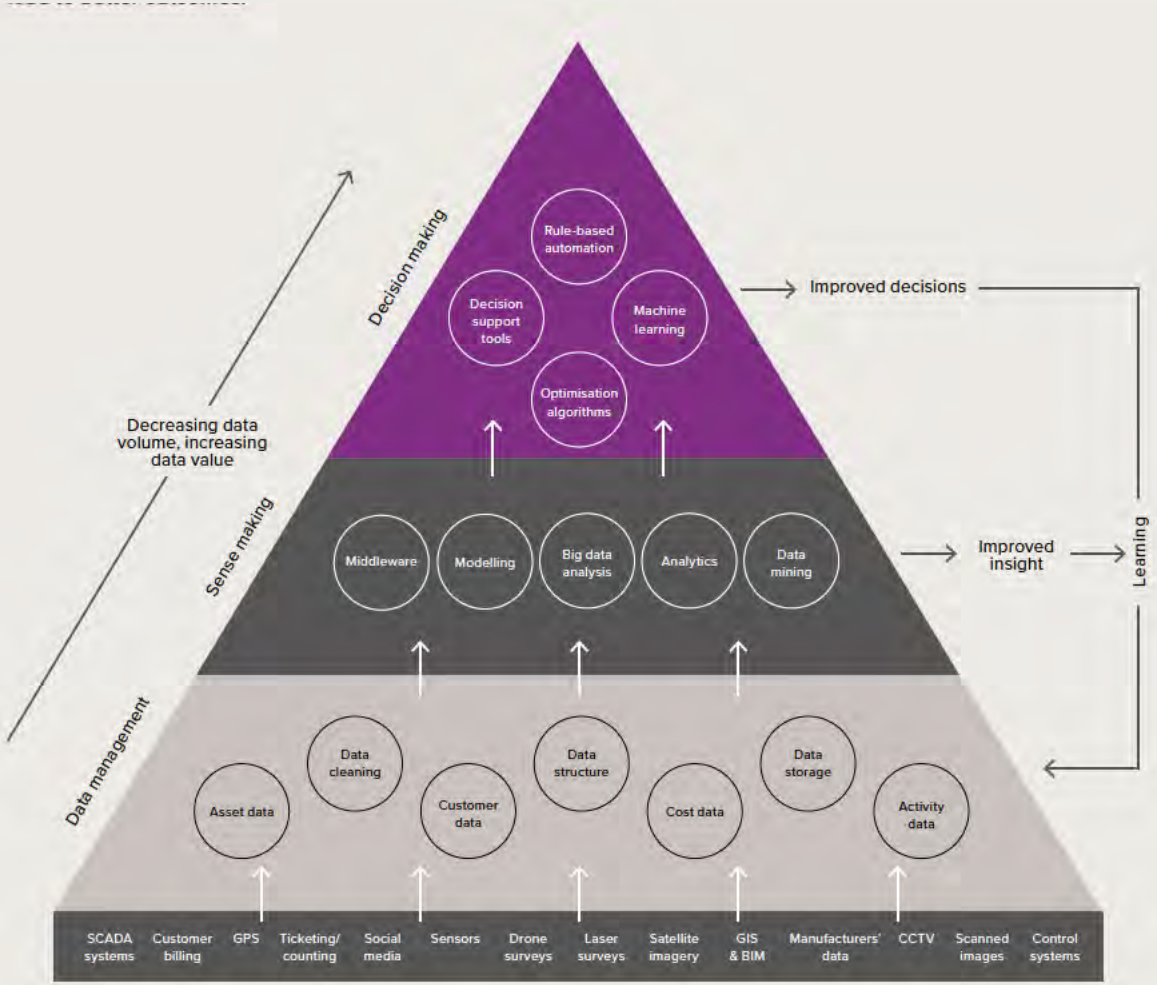
The Gemini Principles

Purpose:
Must have clear purpose

Trust:
Must be trustworthy

Function:
Must function effectively

Public good Must be used to deliver genuine public benefit in perpetuity	**Value creation** Must enable value creation and performance improvement	**Insight** Must provide determinable insight into the built environment
Security Must enable security and be secure itself	**Openness** Must be as open as possible	**Quality** Must be built on data of an appropriate quality
Federation Must be based on a standard connected environment	**Curation** Must have clear ownership, governance and regulation	**Evolution** Must be able to adapt as technology and society evolve



ORBI
City Operating System
“**Digital Twin**”

GENIUS PLATFORM

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Mid-Day | 75° F
Sunny, partly cloudy

Unisol Smart Police Platform

黄浦智慧警务系统

一标六实

- 实有人口
- 实有房屋
- 实有单位
- 实有安防
- 实有力量
- 实有警情

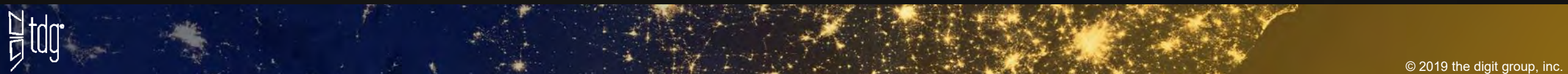
实有警情

地图定位 OFF

经纬度定位: 121.527,31.2706

- 中福花苑
- 塞元大厦
- 百汇公寓
- 南通公寓
- 仁宝公寓
- 海潮新村
- 和平饭店

Smart Cities Ecosystem Projects



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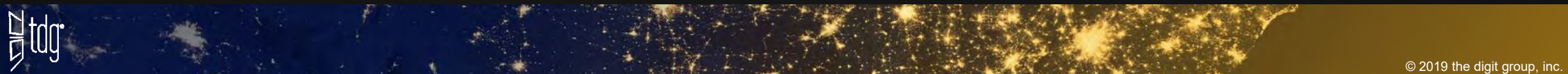
Greenfield Smart City

Jeddah, Saudi Arabia



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شركة جدة الإقتصادية
JEDDAH ECONOMIC COMPANY

Jeddah Economic City

Tower

Energy

Transportation

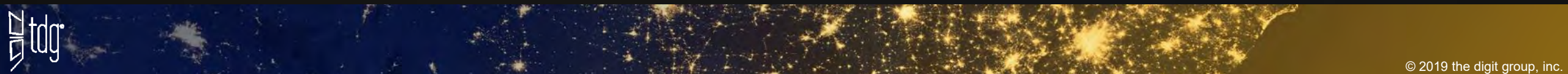
Safety

Security

Quality of Life

Autonomous Public Transportation

Nashville, Tennessee



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Nashville MTA

NextGEN Bus

Presented by: thedigitgroup

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DAIMLER
FOTON
福田汽车
tdg

DAIMLER FOTON 福田汽车 tdg

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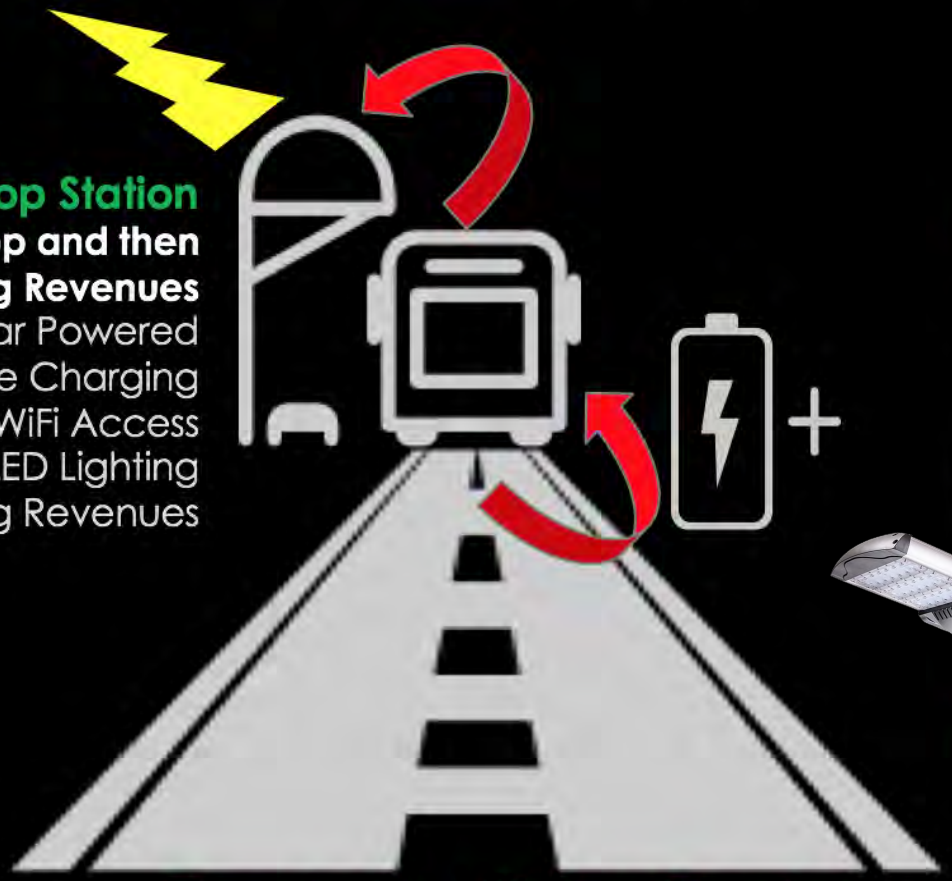
NextGEN Bus Storyboard

DAIMLER

TDG AV Bus 2.0



Bus Stop Station

Excess Energy Sent into the Bus Stop and then Sold into the Power Grid Generating Revenues

Solar Powered
Mobile Device Charging
WiFi Access
LED Lighting
Innovative Advertising/Branding Revenues

Bus Vehicle

Autonomous Vehicle
Less Batteries/Halo Wheel Well Installation
Drive Train / Chassis
LED Lighting (interior/exterior)
Interior Design
Innovative Advertising/Branding Revenues

Street Lighting

Curb Installed LED Lighting
No Dark Areas Along the Bus Route
10g LiFi Internet Access

Piezoelectric / Wireless Charging

Road Surface Installation – Before/After Bus Stop
Thin Film Piezoelectric on Inside of Bus Tires
Qualcomm Halo Dynamic Wireless Charge During Boarding and Offloading Process from Bus to Bus Stop

10th Circle N
Nelson Merry St
Gay St
Johnson Ave
10th Ave N
Church St
11th Ave N
Grundy St
12th Ave N
12th Ave S
McGavock St
Demonbreun
13th Ave S
George L Davis Blvd
14th Ave S
9th Ave S
Broadway
Peabody
Cumberland
65
24
209
2034
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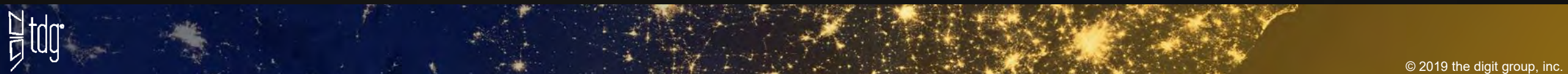
Lockheed Martin
vocativ
WEATHER
CO2 LEVELS
TEMP
WIRE

Modular Housing Automation

Shanghai, China



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Modular Housing

One Home Manufactured Every 7 Minutes

BIM to Fabrication to Installation in one week

Modular Fabrication Factory

Sustainable 2500 square foot house every 7 minutes with zero defects and zero waste

Competitive Advantages

- Sustainable 250 square meter homes manufactured every 7 minutes with zero defects and minimal waste
- Once at the site, each home is prepared for move in quality in 7 days
- Pre-arranged agreements with local officials streamline the delivery process
- Technology Integration: Technology is a built into each home as a 4th Utility with **Amazon's Alexa** being one point of integration.
- House as a Platform: With each house as a computer, TDG Housing technology standardization compliments an array of services to the home owner
- Community as a Network: Each TDG Housing home can be connected like a computer network providing a higher level of safety, security and quality of life, including economies of scale purchasing of products, goods and services

Virtual Reality Industrial Park

Qingdao, China

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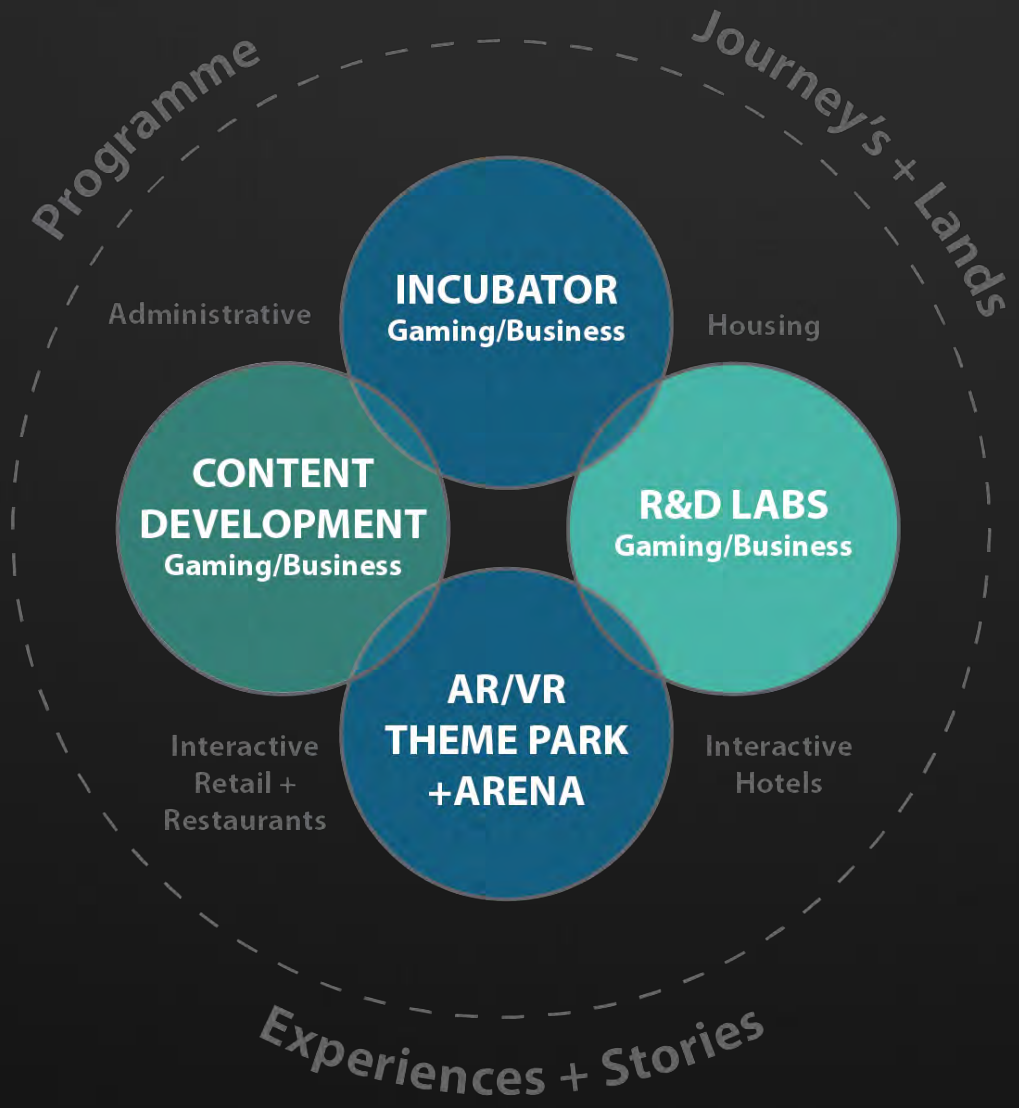
SAMSUNG
htc
Microsoft
magic leap
facebook
Google
tdg
HEDA GROUP
和达集团
Qingdao International Virtual Reality Theme Park

HUAWEI



Business Development

- VR Research & Development Laboratory
- VR Technology Incubator
- Retail / Commercial / Food & Beverage
- Smart Housing – Smart Hotels – Smart Health

Content Development (Studios)

Theme Park

LEARN! - INNOVATE! - EXPLORE!
eTravel - eSports - eCulture

Rides & Simulations:

Superstars – Sports, Music, Entertainers
Gaming – Individual/Multiplayer
Business Showcase
Convention / Conference Center
Arena

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eSports Arena

WETA WORKSHOP

REEL FX

DIGITAL DOMAIN

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梦想
DREAM
Qingdao International
Virtual Reality Theme Park

Data-driven, human-centric

Keep the bigger story in focus

Embrace the collision of industries

Do good for our world

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