Application of Drone-Enabled Technology in

ROAD CONSTRUCTION

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DRONES

Disruptive and Exponential Technology?

Disruptive Tech

Technology that creates a new market and value network and ***eventually*** **disrupts an existing market and value network, displacing established market-leading firms, products, and alliances.**

Exponential Tech

If your stride is 1 meter, 30 (linear) steps will take you 30 meters from your starting point.

VS

With a 1 meter stride, 30 (Exponential) steps will take you 26 trips around the world.

Moors law: Every two years

-Half the price (Cost/Weight ect)

- Double as good

What is a Drone

- **Aerial platform capable of carrying various (any) payloads**
- **Result of years of innovation from other exponential technologies (PC/GPS/Camera and other sensors/ software and AI/micro parts for cell phones/ 3 D Printing)**
- **Fixed wing /Heli /Multirotor**

Use cases : Innovative uses of Drones
Ball Drone

Use cases : Innovative uses of Drones
Fire Fight

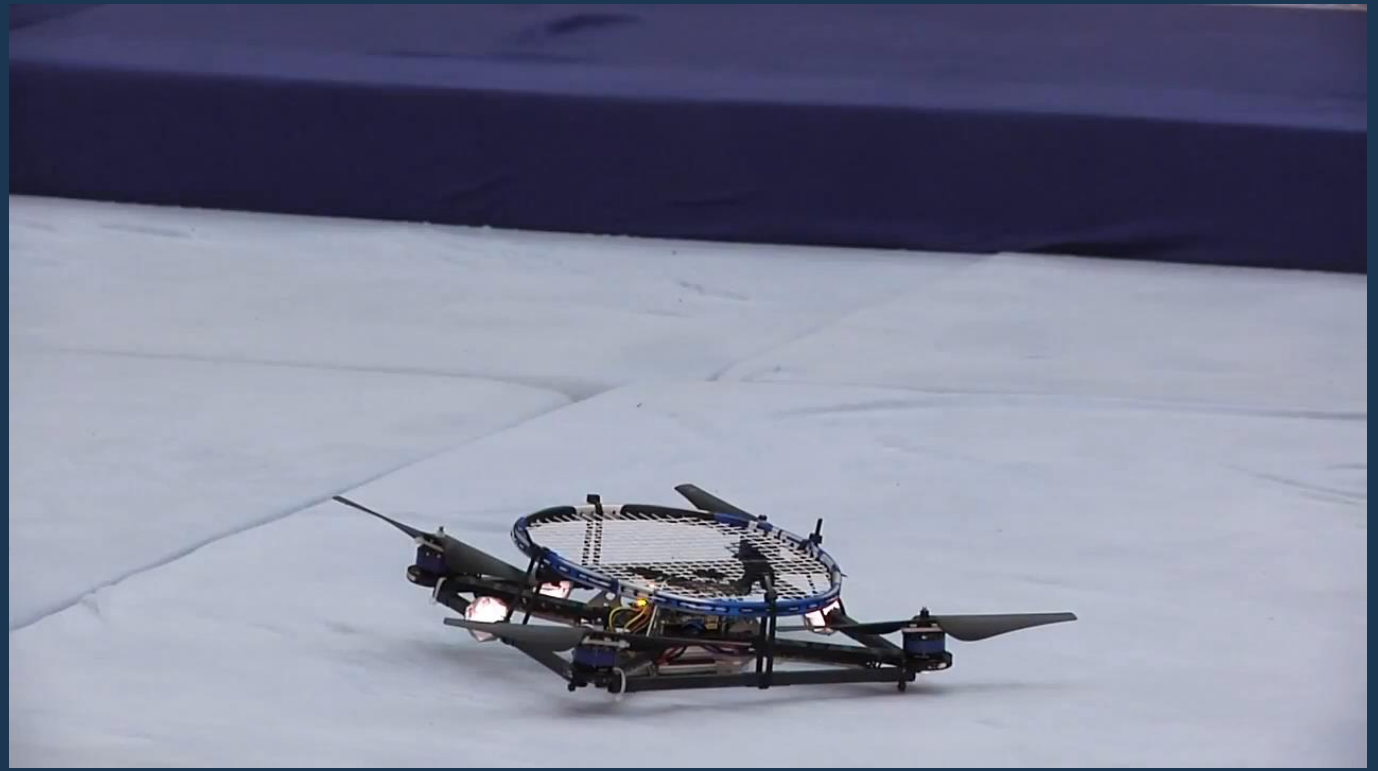
Use cases : Innovative uses of Drones
Night Surveillance

Use cases : Innovative uses of Drones
Drone Lidar

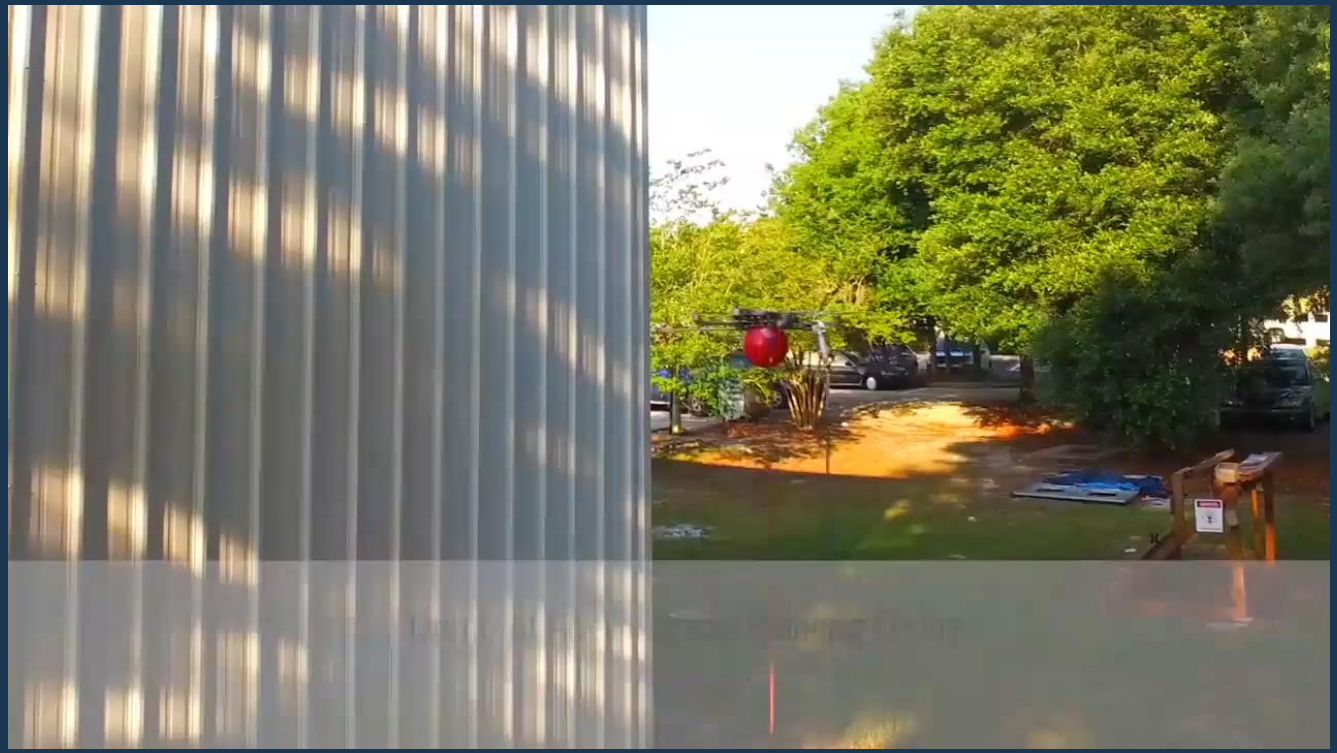
Use cases : Innovative uses of Drones
3D Modelling of structures

Use cases : Innovative uses of Drones
Agricultural drones

Use cases : Innovative uses of Drones
Playing Air Tennis



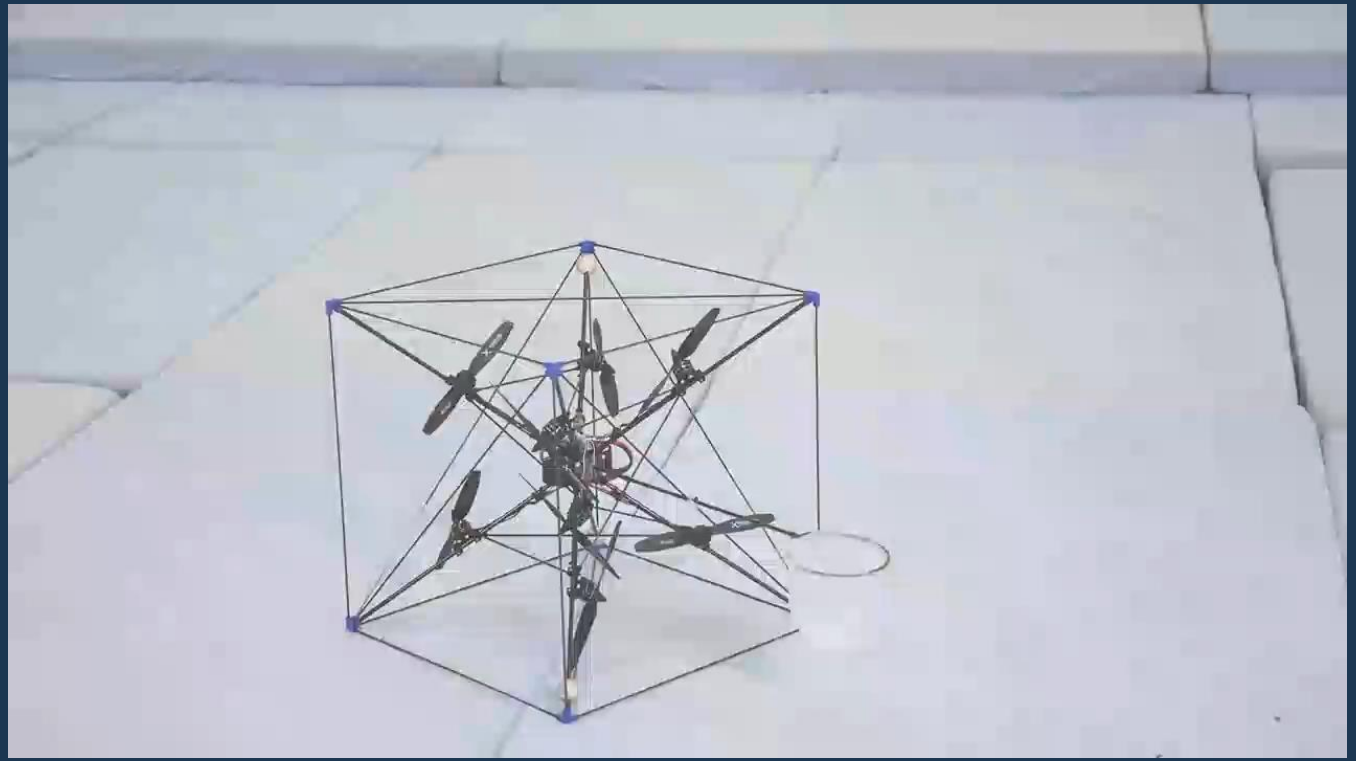
Use cases : Innovative uses of Drones
Spray Painting Walls



Use cases : Innovative uses of Drones
Hoverboard Delivers Soccer Ball

Use cases : Innovative uses of Drones
Drone Surfing

Use cases : Innovative uses of Drones
Fetching Omnicopter



Use cases : Innovative uses of Drones
Weaponized drones

Regulations Paving the way for innovation

The interested participants have to apply to the following institutions for accreditation and approvals:

- SACAA (South Africa Civil Aviation Authority) -Part 101 CARS and CATS
- DTI (Department of Transport)
- ICASA (Independent communication Authority of South Africa)
- SACAA registered ATO Approved RPAS Training organization (Drone school)

If an applicant is successful they will received the following:

- **Radio Station License**
- **RPL** (Remotely Piloted aircraft License)
- **ASL** (Air services company License) – Corporate (Not Commercial) ROC exempted from this
- **RLA** (RPAS Letter of approval per aircraft)
- **RPAS Registration certificate** (Per aircraft)
- **ROM** (SACAA approved RPAS Operation Manual)
- **ROC** (RPAS Operating Certificated)

Bridging the Language Barrier of change

- **RPAS - Technical and Compliance Consulting (RPAS TCC)**
  - A New bread of specialised tech consultants
  - Your guide into the new possibilities unlocked from the use of Drones and other related Tech

- **Establishment of ongoing Business Requirement Specification (BRS)**
  - *A universal assessment format to determine if it is possible to achieve better alignment with Policies, Procedures and SOP's*
  - *RPAS TCC can now digest and start to understand the needs of the stakeholder in a relative short amount of time*

- **Establishment of ongoing Functional Requirement Specification (FRS)**
  - *A universal assessment format to* propose a replacement SOP that could achieve the required outcomes that will result in *better alignment with Policies and Procedures*
  - *Stakeholder can now digest and better understand the possible replacement SOP's proposed in a relative short amount of time*

The Road to :
“Application of Drone-Enabled Technology in Road Construction“

RPAS - Technical and Compliance Consulting (RPAS TCC)

- Existing Private Sector RPAS Consulting Companies
- Commercial Unmanned Aerial Association of South Africa (CUAASA)
- Other Relevant experienced RPAS Industry experts

Establishment of ongoing Business Requirement Specification (BRS)

- This process assesses *effectives of current SOP’s*
- Determine the *Achieved Outcomes vs Required Outcomes*
- *Drive to ensure* better conformance to Policy and procedures
- Record findings in a *Business Requirement Observation (BRO)*
- Interview, record and sign off *each departments separately*

Establishment of ongoing Functional Requirement Specification (FRS)

- This process assesses *each finalised (Signed off) BRO*
- Addresses Required Outcomes *without losing Achieved Outcomes*
- Present solution in a *Functional Requirement Observation (FRO)*
- Proposes *NEW SOP’s are Outlined including a risk assessment*
- As and when only - *POC’s and Test cases to confirm use case*
- Interview, record and sign off *each departments separately*

THANK YOU!

On Behalf of the South African Drone Industry

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D W A S

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Visual Air Productions (Pty) Ltd

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