

The 5th CSIR
CONFERENCE

IDEAS THAT WORK

8-9 October 2015 | CSIR ICC



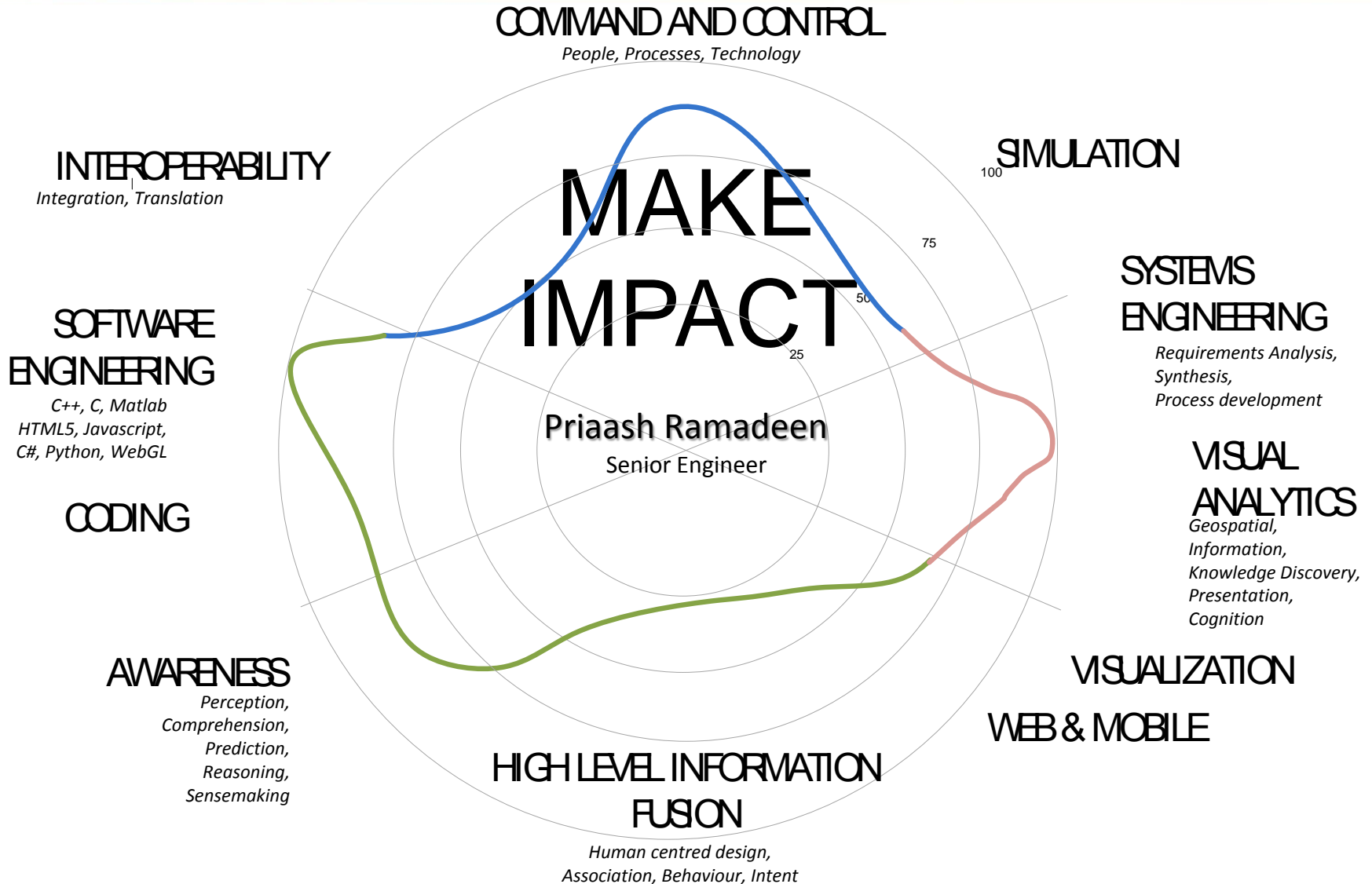
**Technology to combat poaching
From the lab to the park**

Priaash Ramadeen

CSIR
our future through science

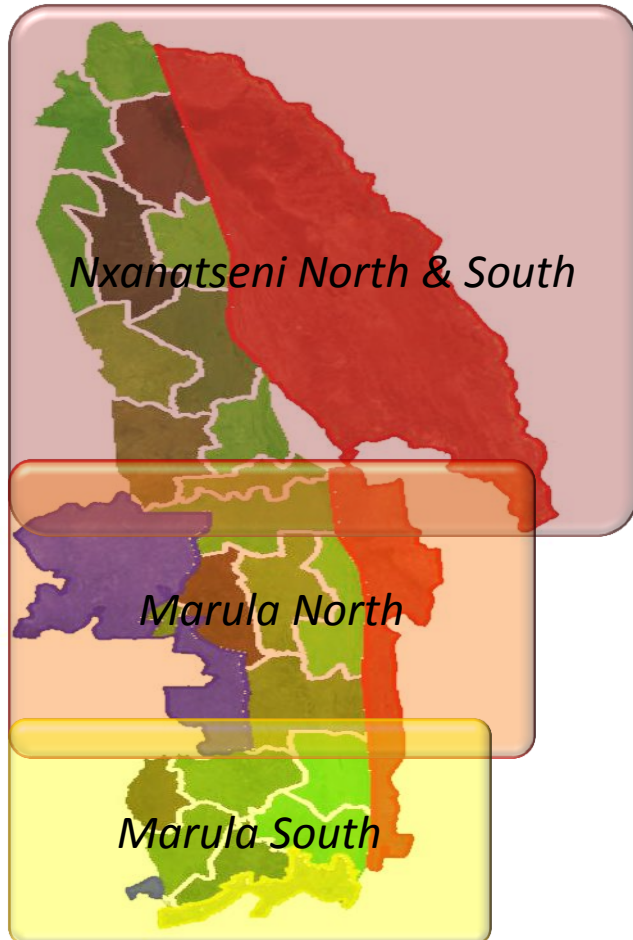
CELEBRATING
70 Years
Ideas that work

What do I do?



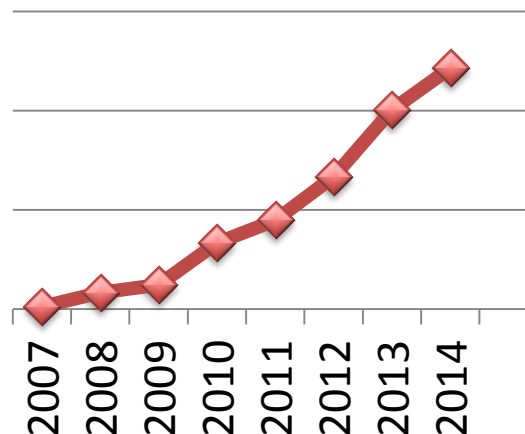
Scourge of poaching

Kruger National Park



- South Africa is home to an estimated 80% of the world's rhino population
- KNP is 2 million hectares in size
- KNP has the largest concentration of rhinos on the planet
- The KNP also shares a 450km South African border.

Rhinos Poached



Source: https://www.environment.gov.za/projectsprogrammes/rhinalogues/poaching_statistics

CSIR joins the fight against poaching

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CSIR Mandate

“The objects of the CSIR are, through directed and particularly **multidisciplinary research and technological innovation**, to foster, in the national interest and in fields which in its opinion should receive preference, industrial and scientific development, either by itself or in co-operation with principals from the private or public sectors, and thereby to **contribute to the improvement of the quality of life of the people of the Republic**, and to perform any other functions that may be assigned to the CSIR by or under this Act.”
(Scientific Research Council Act 46 of 1988, amended by Act 71 of 1990)



From the lab to the park

cmore

- From concept
- To the lab
- To border safeguarding experimentation
- Towards CSIR safety and security
- To the park

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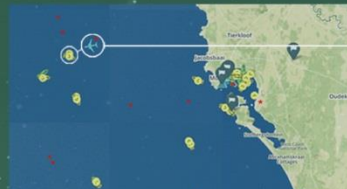
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From concept

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AWARENESS



TRACKING TARGET

- * VISUAL CONFIRMATION
- * HEADING TOWARDS HARBOR
- VESSEL TYPE - UNKNOWN
- SPEED - UNKNOWN

INTEGRATION



In the very beginning the hypothesis of can we leverage modern technologies for command and control was posed to the scientists and engineers at the CSIR Smart Systems research group.

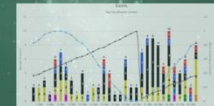
SHARED AWARENESS
ECO-SYSTEM

COLLABORATION



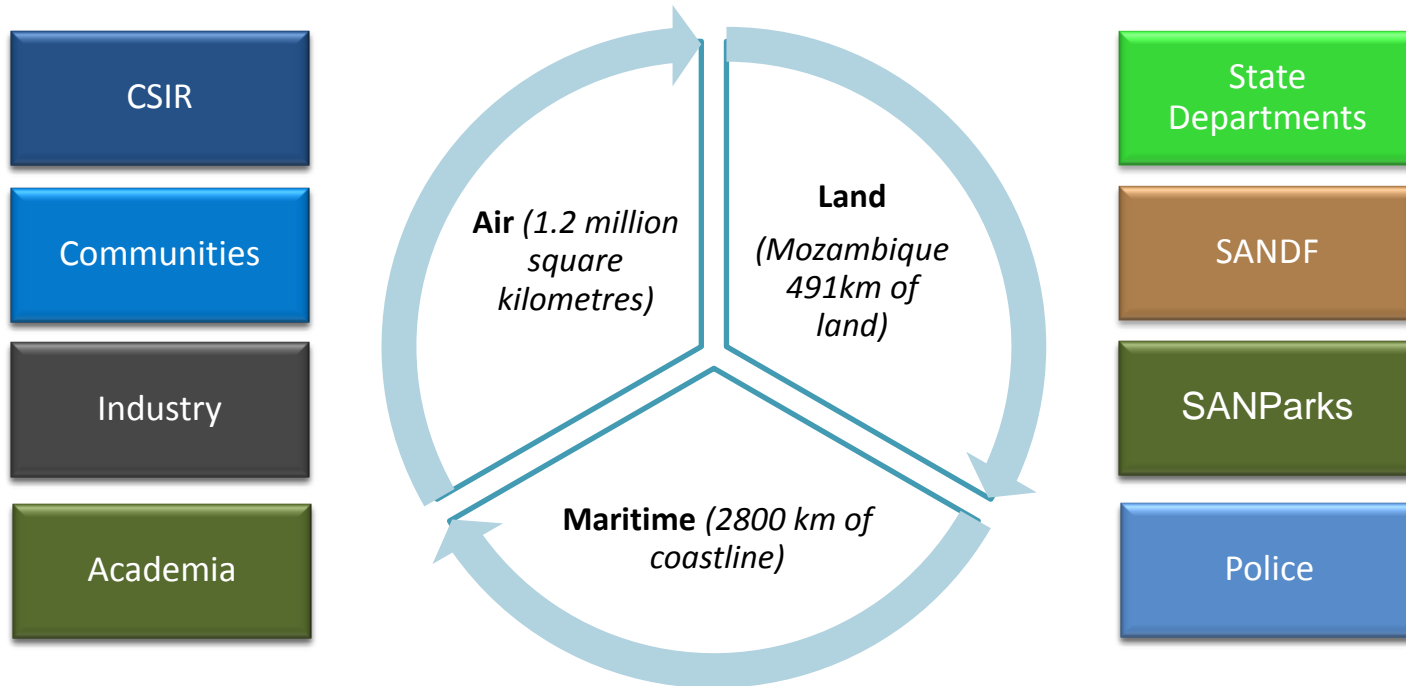
REAL TIME ANALYTICS

TAC EVENT COUNTS OVER TIME (PER DAY) COLOUR CODED GENERATED FROM LIVE DATA. MOON PHASE AND ILLUMINATION INFORMATION HAS ALSO BEEN SUPERIMPOSED TO HELP IDENTIFY POSSIBLE TRENDS.



CELL PHONE NETWORK COVERAGE MAPS GENERATED ON THE FLY FROM LIVE AND HISTORIC BLUE FORCE TRACKING DATA. OUR TRACKING APP CAPTURES CELL PHONE SIGNAL INFORMATION FROM THE DEVICE IN ADDITION TO ITS PRIMARY PURPOSE OF BLUE FORCE TRACKING.

To border safeguarding experimentation



Practical Situations

- Immediate
- Blue Flag
- Targeted
- Direct
- Perimeter
- Control



Decision Support

play

International Gathering

IS

cmore team

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Supported by Braam Greeff and Charl Petzer

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Thank you

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