



SEAD SA

SPATIAL ECONOMIC
ACTIVITY DATA
South Africa

Spatial Tax Panel

Overview

Andrew Nell

5 September 2024



national treasury
Department:
National Treasury
REPUBLIC OF SOUTH AFRICA



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Inclusive Economic Development

Research that transforms educational outcomes and increases economic participation



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Data Sources

Leveraging de-identified data available within the NT Secure Data Facility

PAYE IRP5/IT3a

- **Firm level submissions for all PAYE registered employees** earning more than R2000 per annum
- **Includes work postal code** per establishment (head office effect minimised)
- Includes information related to employees including **age, earnings, industry, sex** etc.
- Notable Gaps – Informal work, sole proprietors, self-employed etc.

Firm Income Tax ITR14

- **Firm level tax return** completed per firm rather than establishment (Excludes public institutions and tax exempt firms)
- Includes information related to **Industry, Turnover, firm size (Other potential useful information)**

VAT

- Data related to monthly and bi-monthly VAT201 submissions for all firms with total taxable supplies >R1m per annum
- Includes information related to **Industry**

Customs

- Data related to each individual customs transaction (import and export)
- Includes information related to **Industry (based on products) and export status**

Other potential additions to enrich data – Other tax data, other administrative datasets: UIF, Basic and Higher Education, Social Grants etc.

Data Breakdown

Spatial Variables (based on place of work)	Temporal Variables	Output Variables	Aggregation Variables
<p>National (Province and District data available for specific aggregations)</p> <p>Municipalities</p> <p>Postal Codes</p> <p>Uber H3 equal area hexagon (Disaggregating from Postal Codes)</p>	Months (Only for employee level data)	Employee Level	<ul style="list-style-type: none"> • Industry (SIC5 1-5 digit level) • Wage Band (Similar to Stats SA wage bands in Census) • Age Group (According to ILO age groups) and Youth Indicator • Sex • Immigration Status • And All Establishment level aggregate variables
	Tax year (March - February) Currently 2014-2022	Median Income Level	<ul style="list-style-type: none"> • Industry (SIC5 1-5 digit level) • Age Group (According to ILO age groups) and Youth • Sex
		Gini Coefficients	
		Establishment Level	<ul style="list-style-type: none"> • Industry (SIC5 1-2 digit level) • Firm Size – SARS definition (based on Turnover and Current Assets) • Establishment Size - Number of Employees • Opened/Closed Firms (Year)

Data generally has a **12-month lag** and is **updated annually**

Disaggregated data available within the **secure data facility at NT**

Policy Implications

- The STP provides a **detailed granular spatial panel dataset** to support both **policymaking and monitoring & evaluations**
- **Municipalities** have started to use the data for:
 - **Assessing economic performance** for **specific sub-municipal areas** over time (CBDs, SEZs etc.)
 - Understanding **impacts of shocks** like COVID-19, flooding or riots (in eThekweni)
 - **Evaluating recovery of specific areas or sectors** post COVID to identify potential interventions
 - **Identifying areas** where **specific activities are happening**, such as identifying areas that may be susceptible to copper theft by identifying where scrapyards are located
 - **Developing regional economic development strategies** based on sectoral breakdowns in neighbouring regions
- **Research community** starting to use data for:
 - Granular **accessibility analysis** to assess the type of jobs that specific communities would have access to **inform transport and housing policy**
 - Developing **economic complexity indices** to assess economic performance and **identify areas for growth**
 - Understanding **employment dynamics and responses to shocks** to better understand vulnerabilities to inform policy intervention design
- **Private sector stakeholders** have started to incorporate the STP into their value offerings and products.



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<https://spatialtaxdata.org.za/>

Demo

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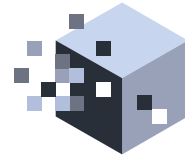
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South African Integrated Data Lake

Conceptual Overview

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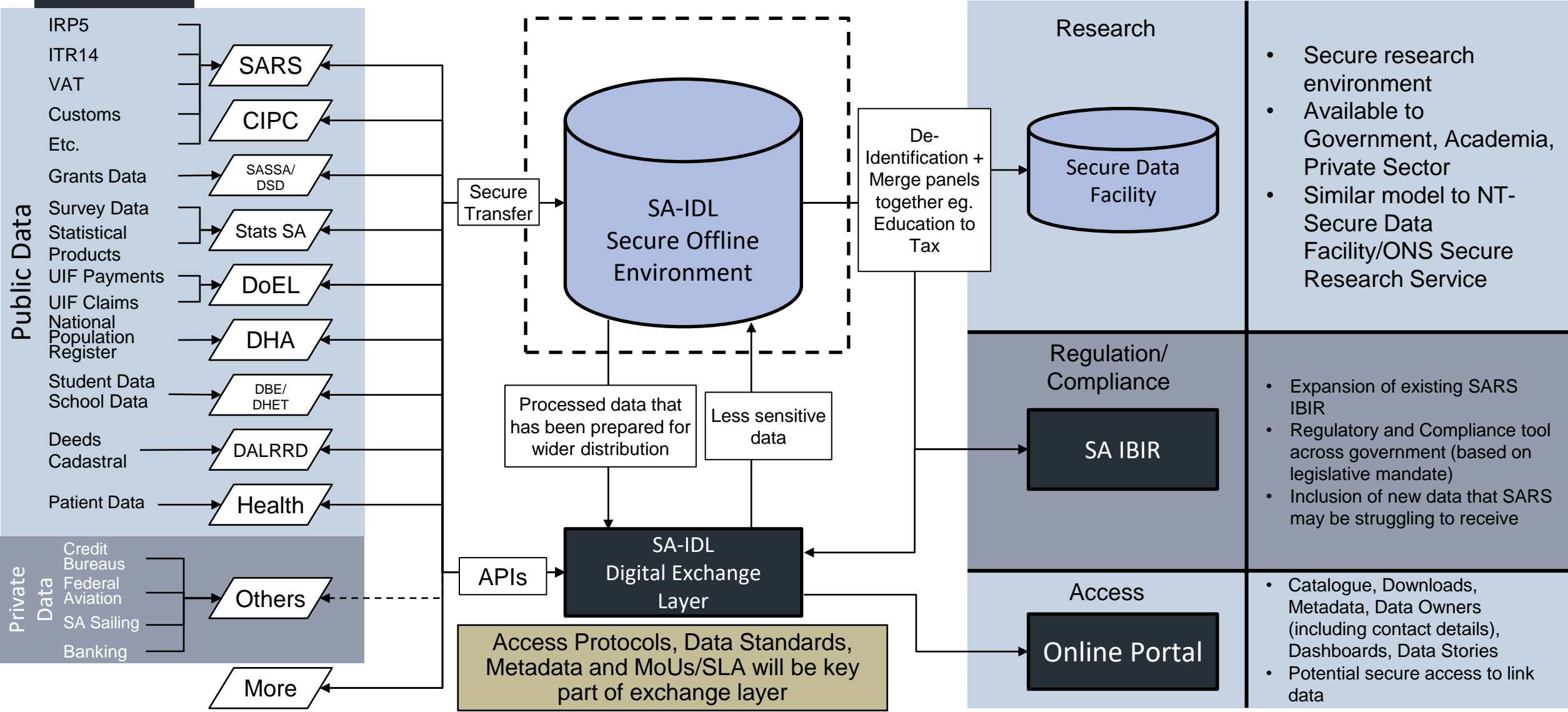
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Conceptual SA-IDL structure





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QUESTIONS

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