



Australian Government
Department of Industry,
Innovation and Science

Office of the
Chief Economist

Data to deliver better policy

David Turvey

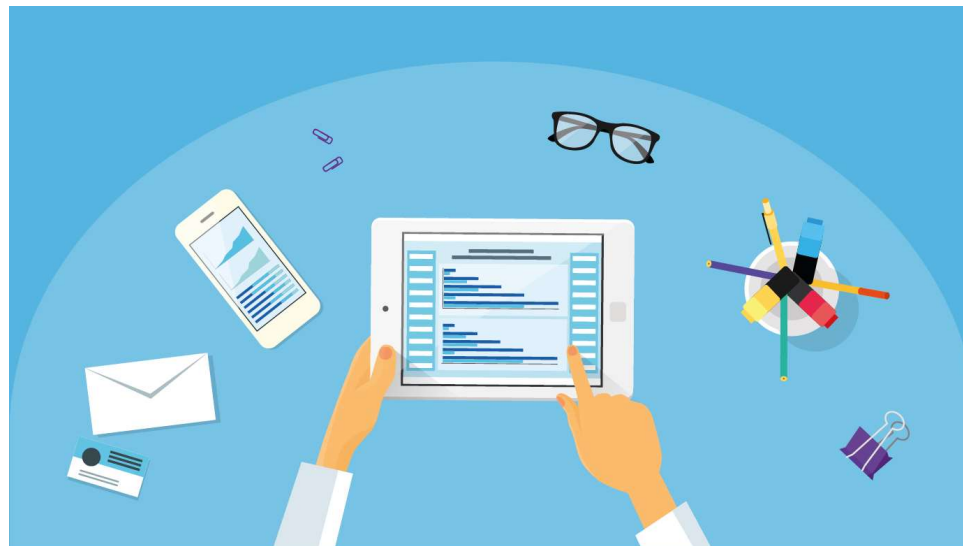
A/g Division Head

Office of the Chief Economist

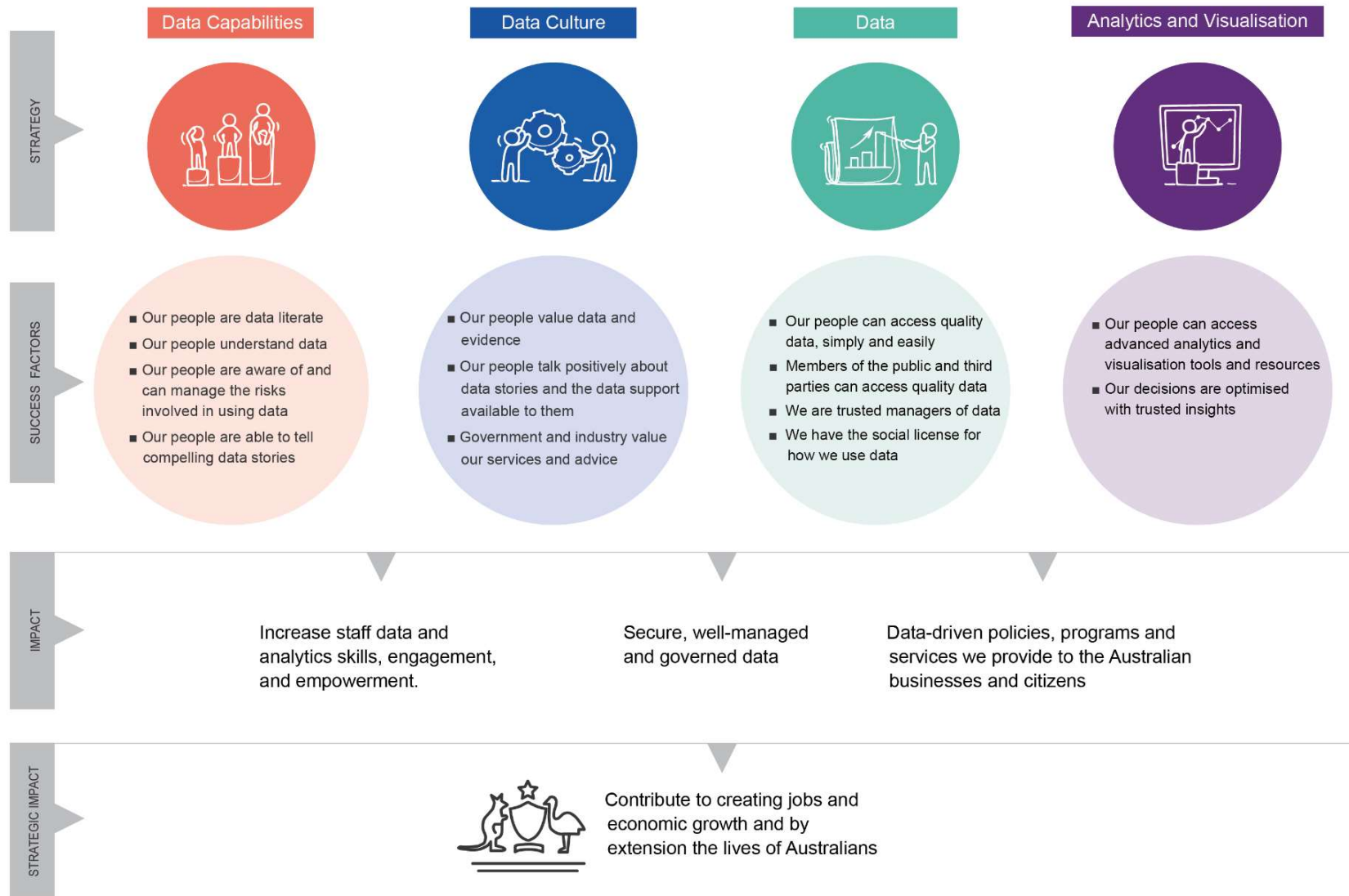
May 2019

Outline

- DIIS Data Strategy
- OCE datasets and maps
- An overview of how the OCE utilises BLADE
- Program participant analytics and tools
- Firm-level OCE research insights
- How DIIS and its partner agencies contribute to the DIPA initiative

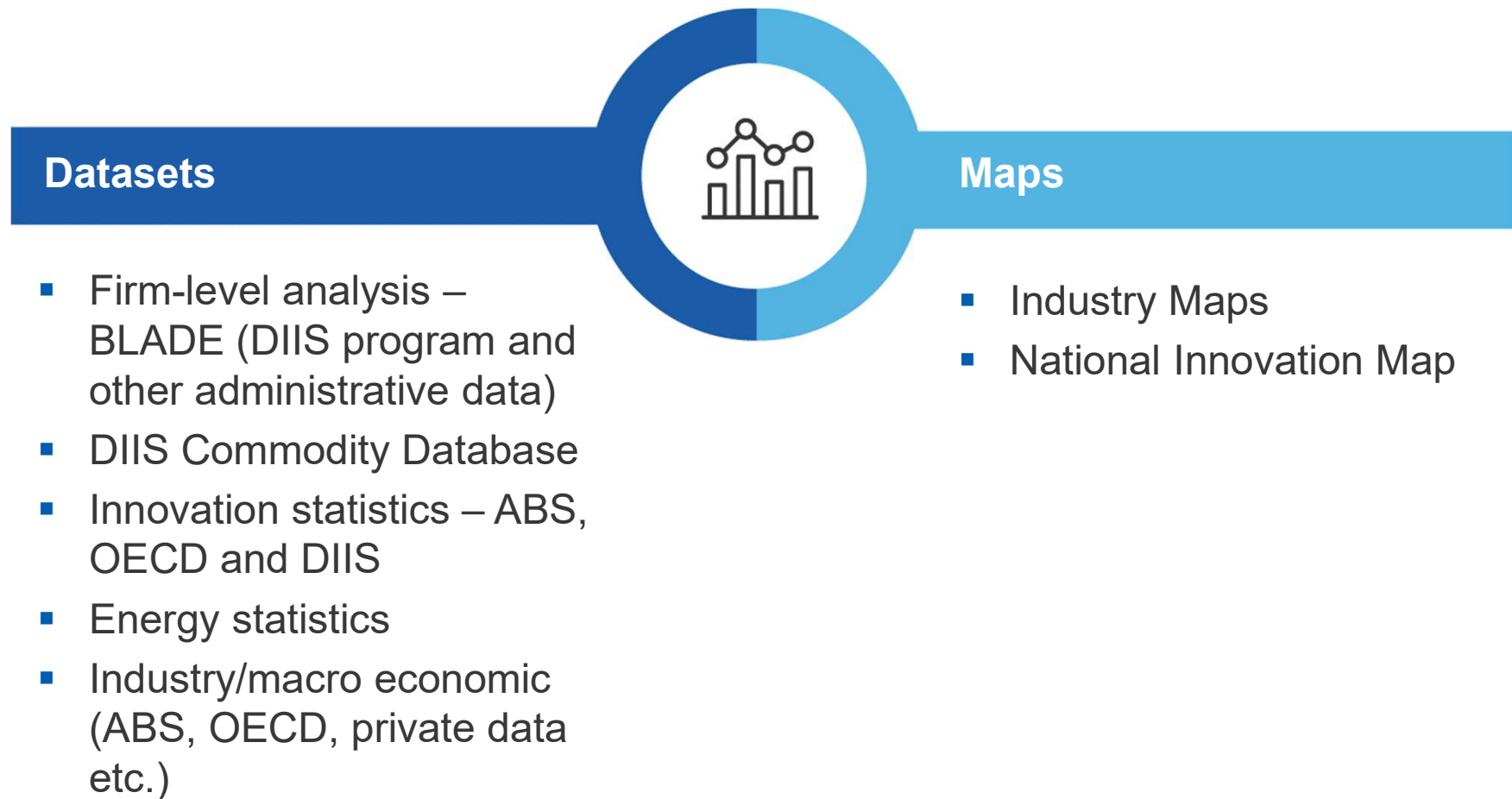


DIIS data strategy

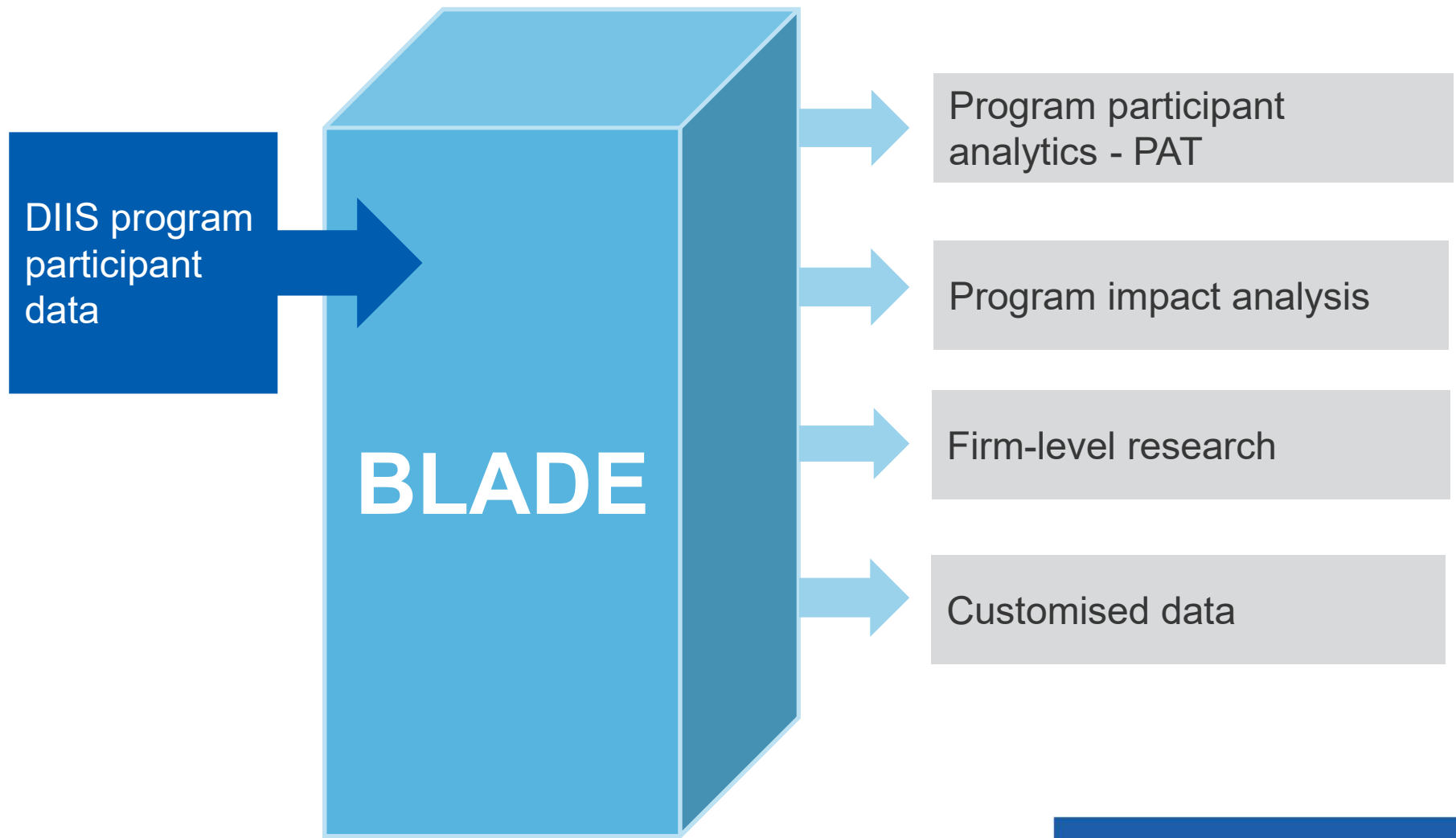


OCE Datasets and Maps

There are various datasets and maps that inform our work



An overview of how the OCE utilises BLADE



Challenges of using BLADE

Data size – millions of observations

- Too large to be read into desktop computer memories (and keeps growing every year).
- Can only inspect a handful of observations at a time.
- Need well optimised code.

Data completeness

- Not every variable is available for every firm.
- Quality: admin errors, erroneous and legitimate outliers, missing values.
- For BLADE 2001-02 to 2015-16 less than 25% have a non-missing employment report.

Data linkage for ‘complex firms’

Integrating program data and BLADE data with different variables

Confidentiality controls

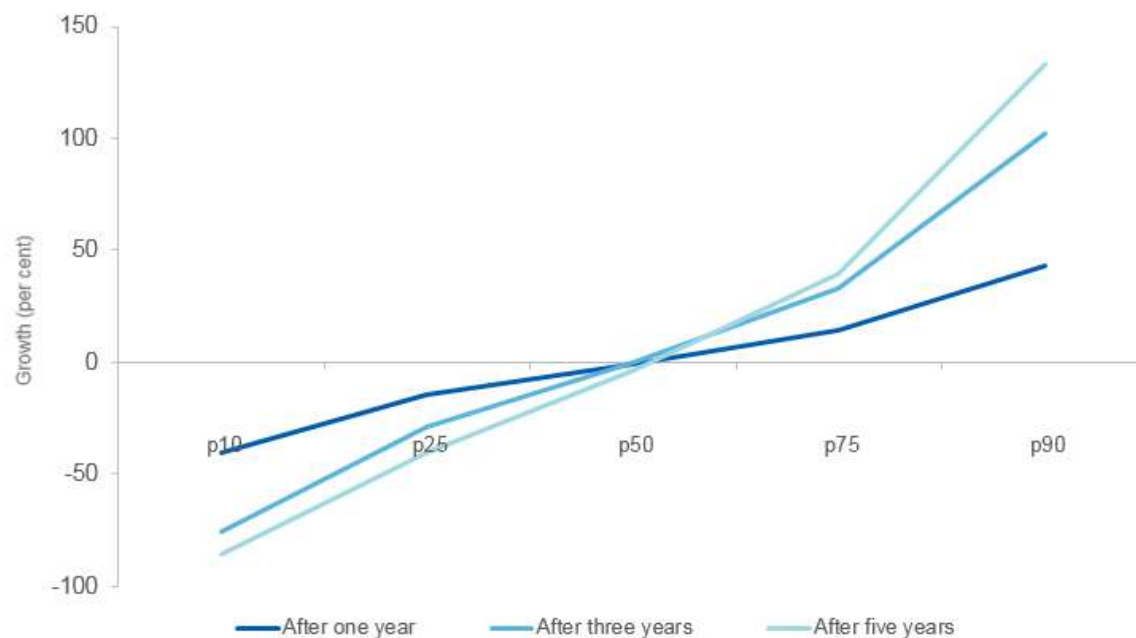
Program Analytics Tool (PAT)



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R&D Tax Concessions, 2008-09 cohort, All firms
Employment, all years



<input checked="" type="radio"/> Show after 1 year	<input type="radio"/> Show after 3 years	<input type="radio"/> Show after 5 years	<input type="radio"/> Show all years
<input type="radio"/> Show data table	<input type="radio"/> Show bar chart	<input checked="" type="radio"/> Show line chart	<input type="radio"/> Show all

SELECT OPTIONS:	
PROGRAMME: <input type="text" value="CA"/> <input type="text" value="CITA"/> <input checked="" type="text" value="RDTC"/> <input type="text" value="RDTI"/> <input type="text" value="RIB"/> <input type="text" value="TAS"/>	FIRM SIZE: <input type="text" value="Small, 0 to 20"/> <input type="text" value="Medium, 20 to 200"/> <input type="text" value="Large, 200 Plus"/> <input checked="" type="text" value="All firms"/>
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KEY INDICATOR: <input type="text" value="Earnings"/> <input checked="" type="text" value="Employment"/> <input type="text" value="Productivity"/> <input type="text" value="Turnover"/>	

Firm-level OCE research insights

☐ **Born-global firms**

- Firms that export from birth
- Have high export intensity margins and are capital intensive

☐ **Commercialisation Australia**

Overall, there is an increase in exporting activity, and patents and trademark applications among the participants

☐ **Entrepreneurship trends**

- On average, young firms in Australia are quite unproductive upon entry
- However, their productivity jumps in one year after birth

☐ **Government assistance**

- Assisted firms more likely to apply for and obtaining financing
- However, receiving too many forms of assistance undermines that chance

Firm-level OCE research insights

☐ Enterprise Connect

- Firms had higher turnover and employment growth
- Firms had increases in export sales and survival rates.

☐ Market concentration

- Is on average increasing
- However, most increase is within industries that are already concentrated and export oriented

☐ Program Analytics Tool

Relative to the general business population, medium and large firms are over represented in DIIS programs

☐ R&D collaboration

We estimate an 11 per cent increase of productivity two years after collaborative R&D activity is reported.

How DIIS and its partner agencies contribute to DIPA



Economic Data
and Analysis
Network

Data Integration Partnership for Australia



Undertake and commission research

- Understanding the drivers of (firm-level) productivity
- Assessing the impact of public support for firms

Advise on continued development of data assets and prioritisation of use (especially BLADE)

- Research priorities to drive data development work
- Finding new datasets to work on or link (state government program data, linking employee information to firm data)

Capacity building

- Building skills within partner agencies
- New analytical approaches - big data analytics, machine learning, latest developments in panel data econometrics

Dissemination

- Events and other communication mechanisms
- Building the network

Further information



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