

A Future Working with both Proprietary and Open Source Software

Ernestynne Walsh



Open source **AND** proprietary?



Benefits of combining proprietary with open source



**Enterprise
security**



**Enterprise
support**



Flexibility



**Wider range
of talent**

Documentation

Standardised Headers

Inline comments

Naming Conventions

Data types

Formatting of Code

Folder Structure

Version Control

Programming practices

Tasks prior to development

Macros and functions

Improving efficiency

Error handling

Testing

Temporary files

Graphics

Choosing a Graphic

Visual Elements

The text within a graphic

Tabular output

SIA Coding Style Guide



Documentation

Standardised Headers

All headers in scripts must use the standardised format. Examples of populated headers are shown below.

R header

```
# ===== #  
# Description: produce plots that compare the K10 psychological distress  
# measure to the SF-36 perceived disability measure  
#  
# Input: [IDI_Sandpit].[DL-MAA2016-15].[k10_vs_mh_band]  
#  
# Output: comparison_plot = large gg that produces a density plot  
# of those with need and those with little or no need  
# by average SF36 MH score  
#  
# Author: E Walsh  
#  
# Dependencies: k10_sense_check.sas builds the input table that is queried  
# this can be run through main_sofie.sas  
#  
# SQL query located in sql/k10_vs_sf36_mh_check.sql  
#  
# Notes:  
#  
# Issues:  
#  
# History (reverse order):  
# 24 Feb 2017 EW v1  
# ===== #
```



New Zealand Tourism Forecasts 2017-2023

May 2017



Forecast drivers and analysis by country

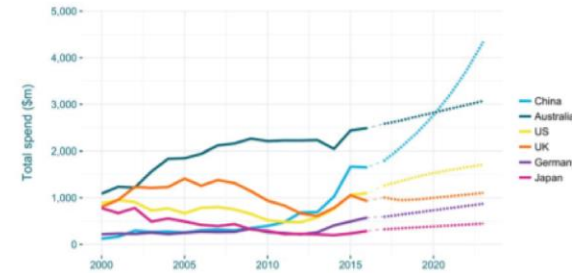
This section provides an overview of the drivers behind the forecasts for New Zealand's largest tourism markets, along with some smaller markets with strong growth potential. Detailed one-page summaries of the forecast numbers by country are available in Appendix A: Forecast summaries by country. Only countries that have a sufficiently large number of visitors have a forecast for tourism spend, due to the limitations of the International Visitor Survey as a data source³.

Australia

	2016 result	2023 forecast
Visitor arrivals (000s)	1,412	1,759 (up 3.2% p.a.)
Visitor spend (\$m)	2,487	3,073 (up 3.1% p.a.)

China is New Zealand's second largest tourism market in terms of both arrivals and spend. This market is expected to grow strongly during the forecast period overpassing Australia as the largest contributor in spend. Major events such as Australia-China Year of Tourism 2017 and New Zealand-China Year of Tourism 2019, policy changes extending the duration of multiple-entry visitor's visas to five years, and an increase in airline seat capacity are all expected to support this strong growth.

Figure 2: Australia is currently our largest market by spend, but China is projected to overtake it in the near future

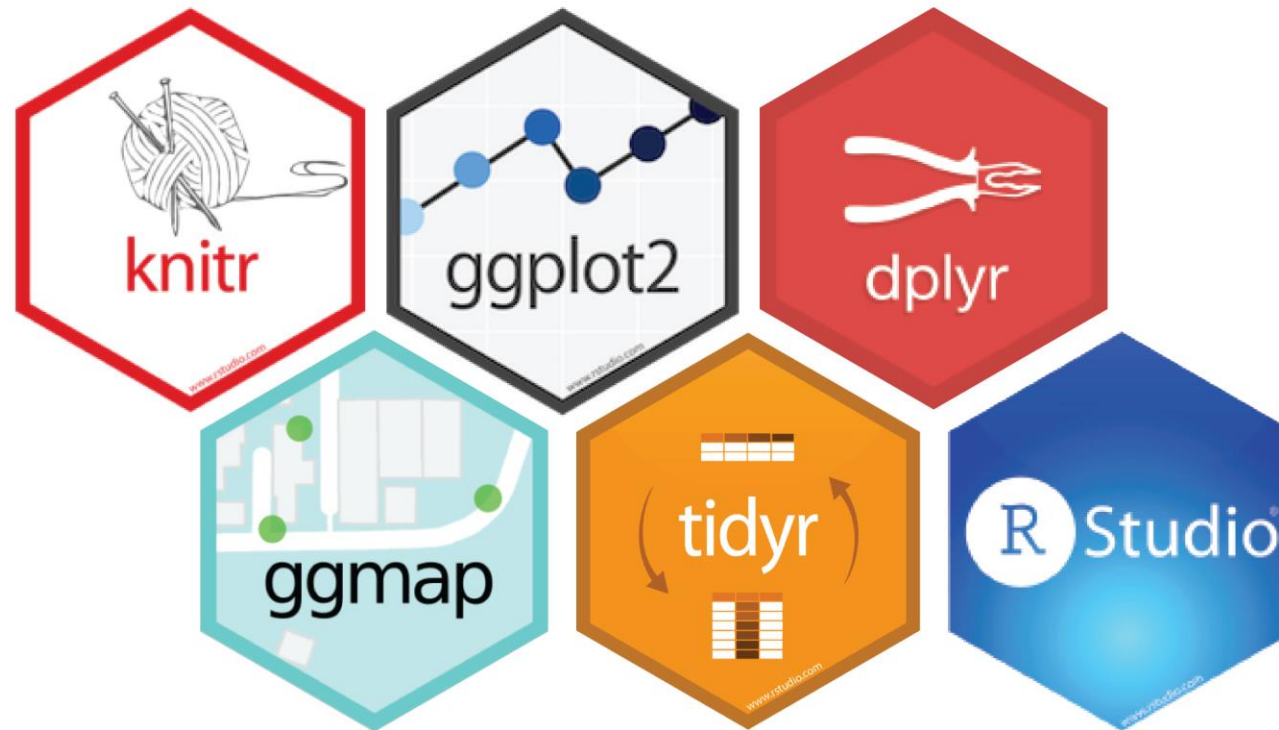


Source: MBIE

Figure 9: Most of New Zealand's non-stop flight routes show an increase in capacity in 2017



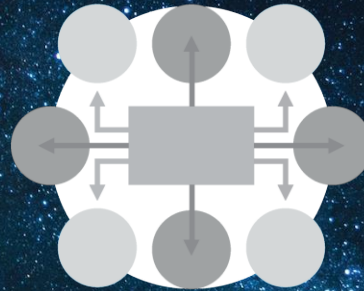
Automated pipeline reporting



Options for using Python and R with SAS



SAS Studio
(Proc iml)



SAS Enterprise Miner
(Open Source Integration)



SAS Viya
(Swat)



PLITIE



SWAT

Scripting Wrapper for Analytics Transfer



nicholson
CONSULTING

```
library(swat)
```

```
conn <- CAS(Sys.getenv("CASHOST"),  
           Sys.getenv("CASPORT"),  
           Sys.getenv("CASUSER"),  
           Sys.getenv("CASPASSWORD")  
          )
```

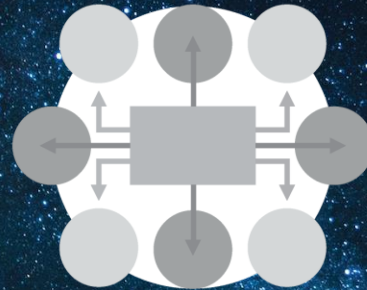
```
...
```

```
results.df <- to.casDataFrame(results)
```


Options for using Python and R with SAS



SAS studio
(Proc iml)



SAS Enterprise Miner
(Open Source Integration)



SAS Viya
(Swat)

Open source **AND** proprietary?





nicholson
CONSULTING

ERNESTYNNE WALSH

ernestynne@nicholsonconsulting.co.nz

