

# The Global Industrial Ecology Virtual Laboratory

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SYDNEY

## 1. Define parameters:

- Regional/Sectoral Structure
- Data Sources (survey, non-survey, other IO-tables, ...)



## 2. Compilation

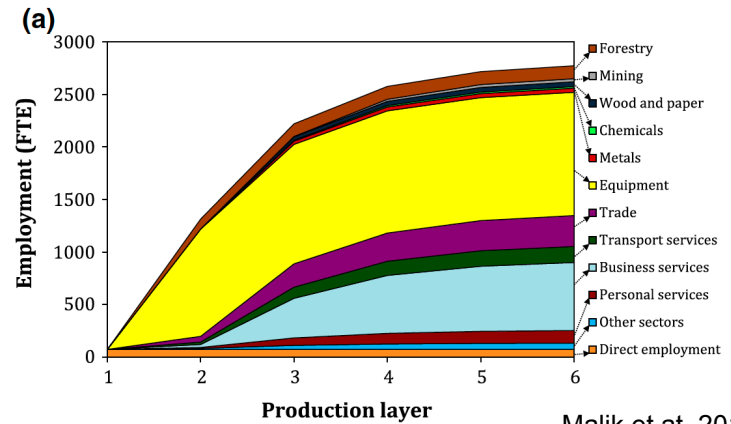


## 3. Final Table

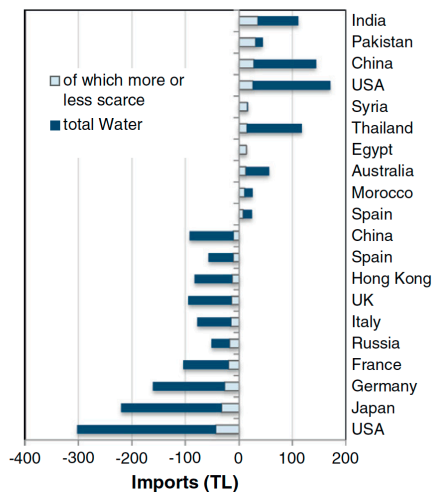
Industry to industry input/output table									
To	Intermediate demand					Total	Final Demand	Exports	Total Supply
From		Mining	Manufacturing	Construction	Services		Public and private		
Intermediate inputs	Mining								
	Manufacturing	Intermediate usage					Final demand		
	Construction		Q1				Q2		
	Services								
Primary inputs	Wages & Salaries								
	Gross operating surplus	Primary inputs to production					Primary inputs to final demand		
	Taxes		Q3				Q4		
	Imports								
Australian Production									

# Use Input-Output Tables for Analysis

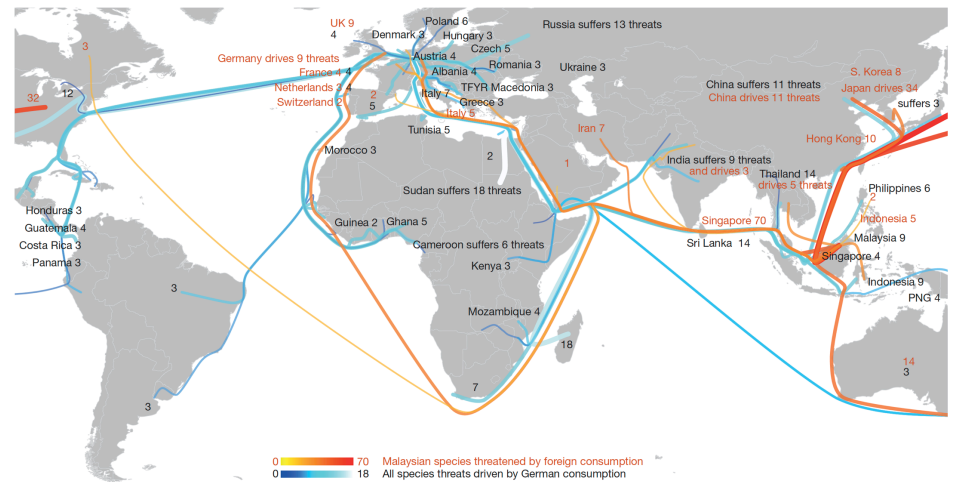
Industry to industry input/output table											
From	To	Intermediate demand					Total	Final Demand		Exports	Total Supply
		Mining	Manufacturing	Construction	Services	Public and private		Government	Private		
Intermediate inputs	Mining										
	Manufacturing		Intermediate usage					Final demand			
	Construction		Q1					Q2			
	Services										
Primary inputs	Wages & Salaries										
	Gross operating surplus		Primary inputs to production					Primary inputs to final demand			
	Taxes		Q3					Q4			
	Imports										
Australian Production											



Malik et al, 2014



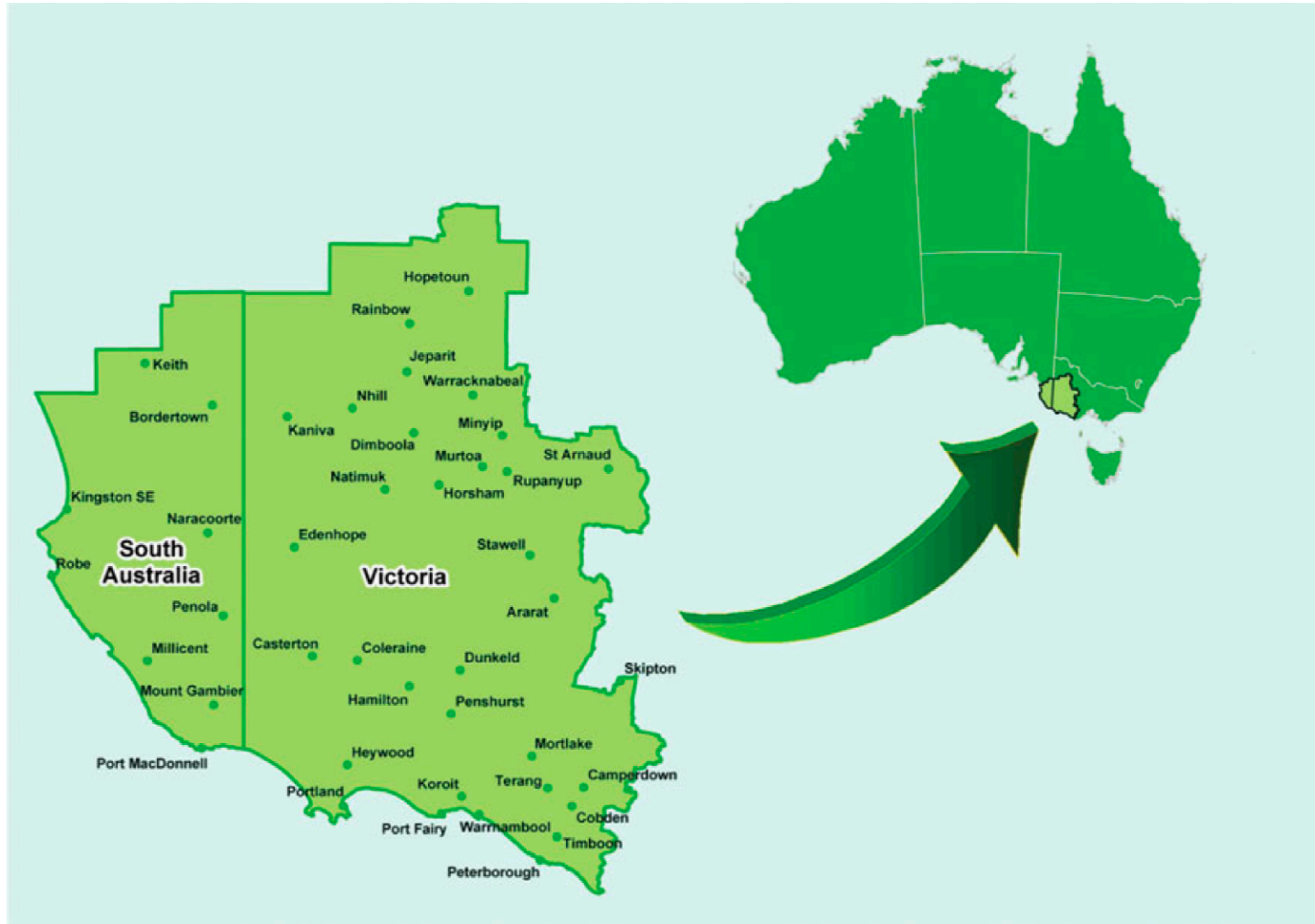
Lenzen et al, 2013



Lenzen et al, 2012



# Find the right table for your study



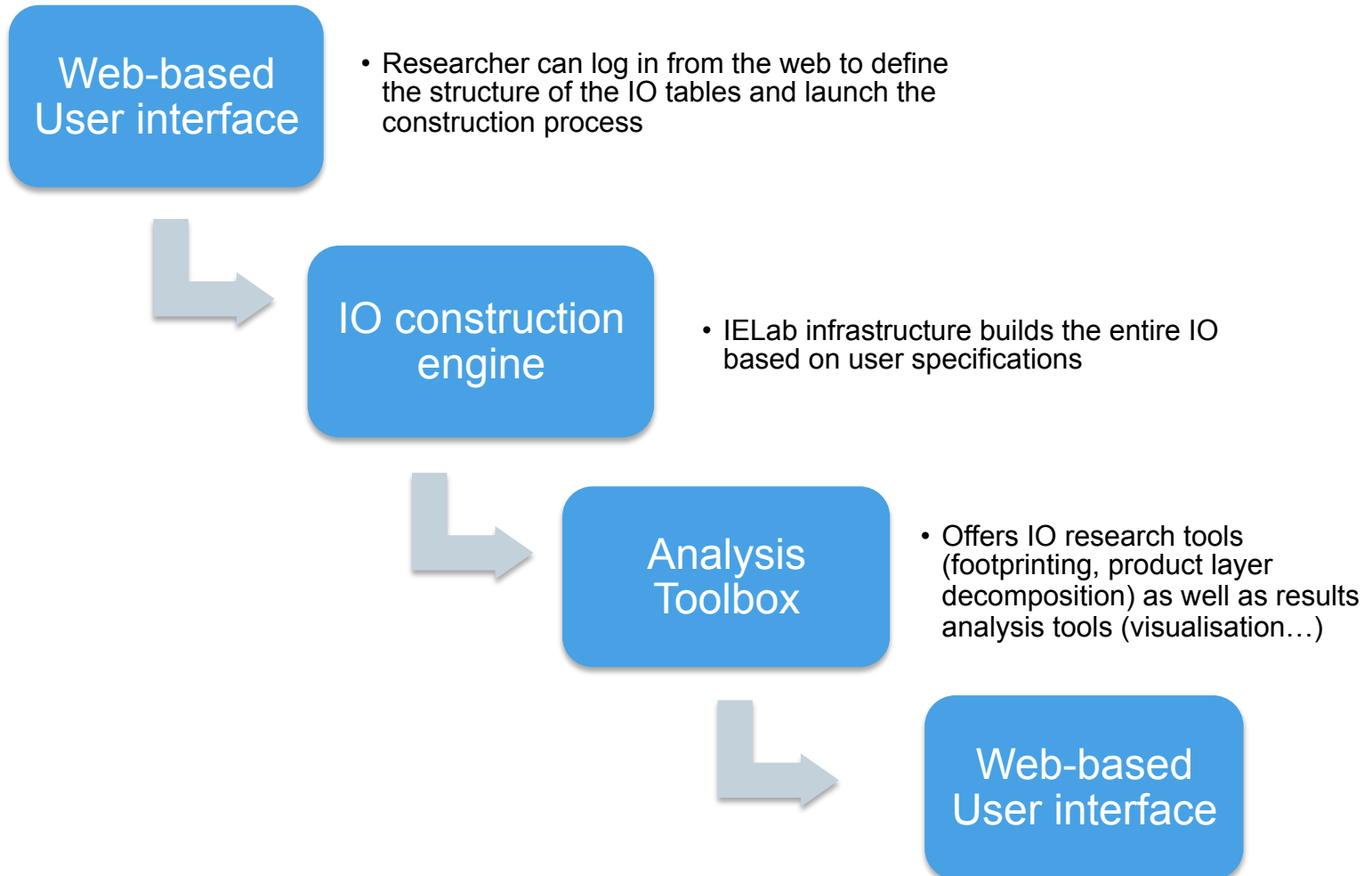


# The Industrial Ecology Virtual Laboratory

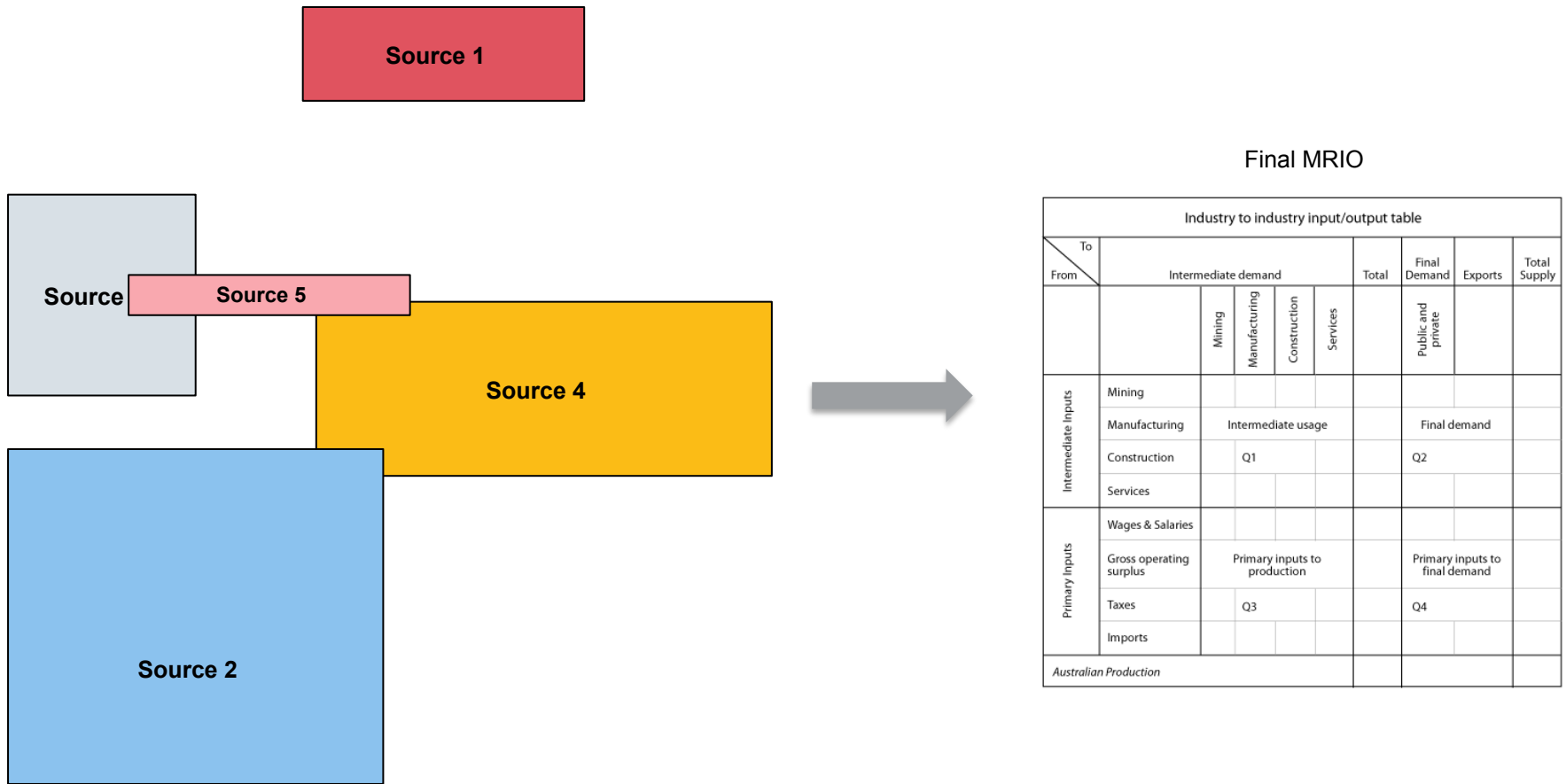




# What is the IELab?



# Data from different sources in an arbitrary MRIO?

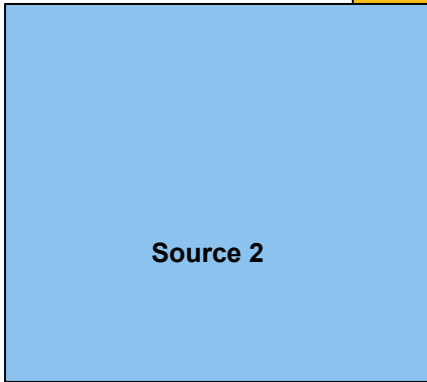
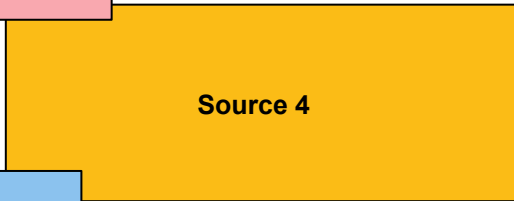
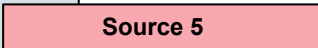
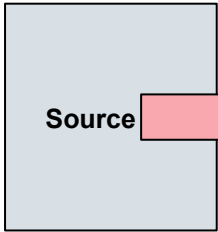


Final MRIO

		Industry to industry input/output table							
From	To	Intermediate demand				Total	Final Demand	Exports	Total Supply
		Mining	Manufacturing	Construction	Services		Public and private		
Intermediate inputs	Mining								
	Manufacturing		Intermediate usage				Final demand		
	Construction		Q1				Q2		
	Services								
Primary inputs	Wages & Salaries								
	Gross operating surplus		Primary inputs to production				Primary inputs to final demand		
	Taxes		Q3				Q4		
	Imports								
<i>Australian Production</i>									



# Root Classification

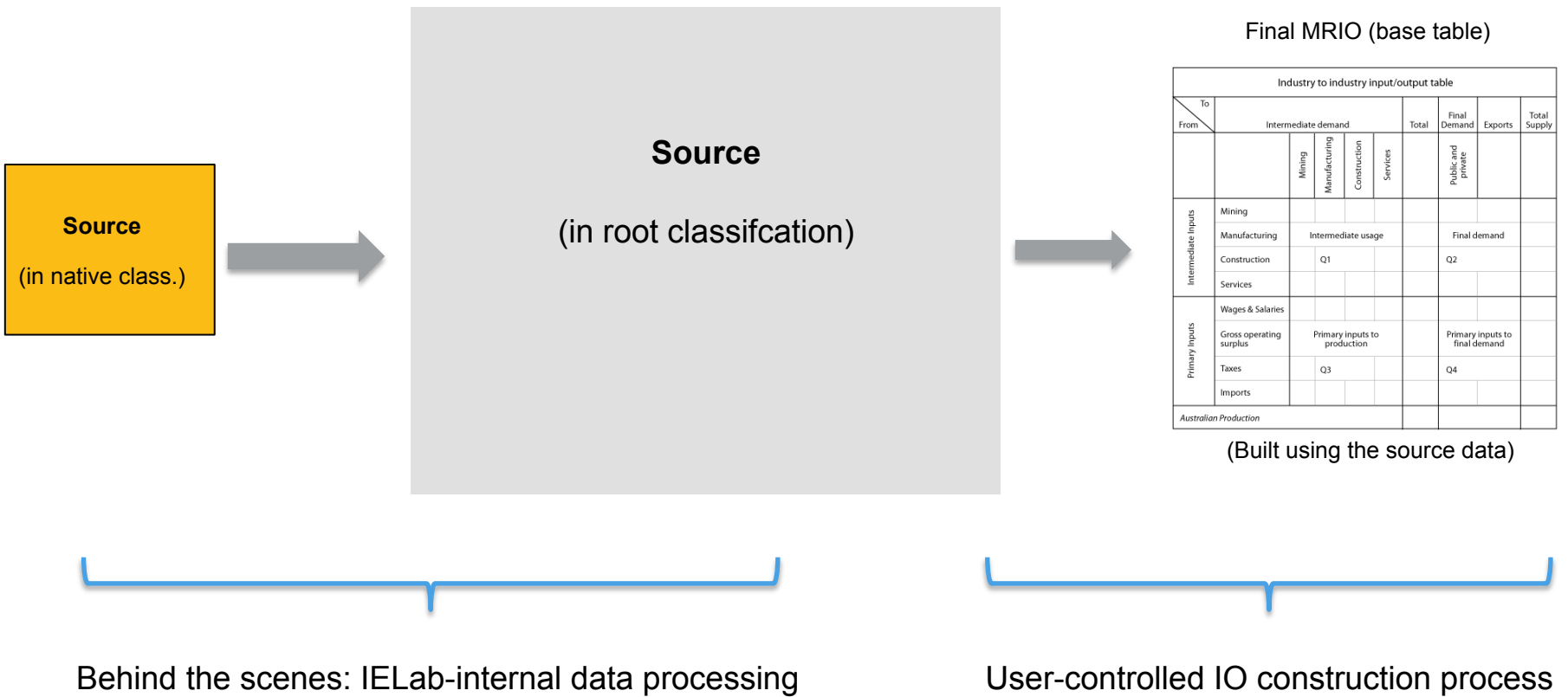


## Root Classification:

All source data must be “converted” into a highly detailed root classification. All IO tables produced within the IELab are aggregations of this root classification



# Building an IO tables within the IELab





[www.ielab.info](http://www.ielab.info)

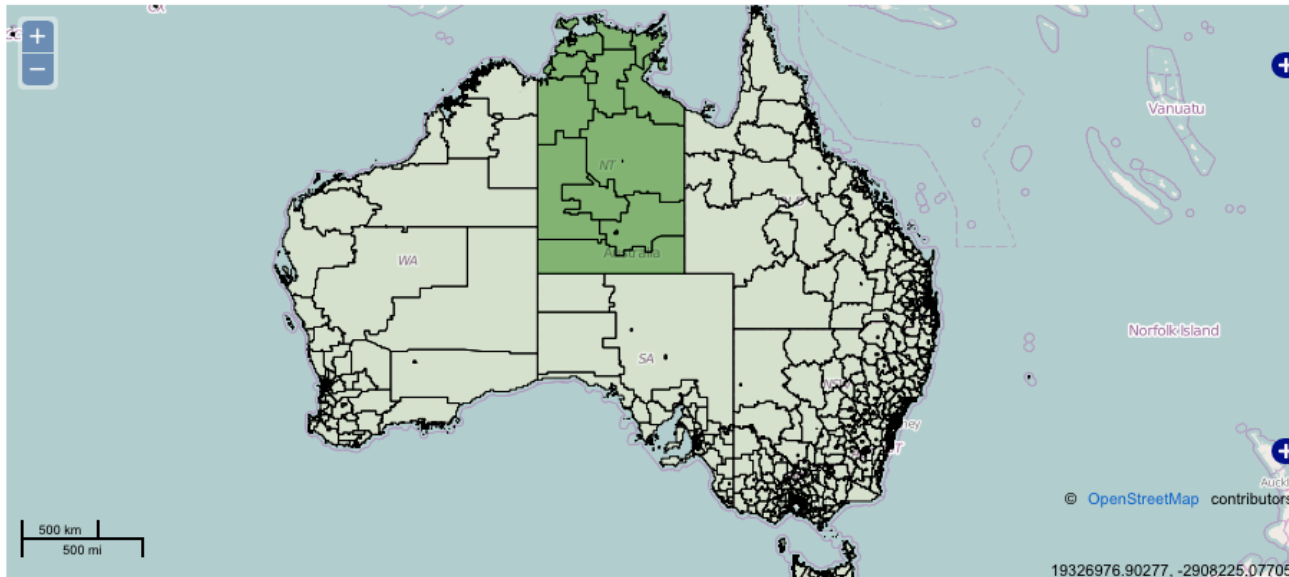


Name:

Sort Order:

Short Name:

[Find Address](#)



Collection:

My Collections Only

[Add](#) [Remove](#) [Clear All](#)

Code	Name	State
701011001	Darwin Airport	Northern Territory
701011002	Darwin City	Northern Territory
701011003	East Point	Northern Territory
701011004	Fannie Bay - The Gardens	Northern Territory
701011005	Larrakeyah	Northern Territory

## Dashboard

[Refresh](#)

### My Bases

[All Bases](#)

Name	Owner	Status	Build Start Date	Build Finish Date
ArneTest2	Arne Geschke	Built - 100%	Thursday, 30 October 2014	Thursday, 30 October 2014
WasteTest	Arne Geschke	Submitted to Cruncher - 30%	Friday, 31 October 2014	
344 Waste Base	Alan Lo	Locked - 100%	Friday, 31 October 2014	Saturday, 1 November 2014
ArneTestBase	Arne Geschke	Built - 100%	Monday, 27 October 2014	Monday, 27 October 2014

⏪ ⏩ 1-4 of 4 ⏪ ⏩

### My Branches

[All Branches](#)

Name	Mother	Owner	Status	Build Start Date	Build Finish Date
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No results found.



# The next step: The Global IELab





# Vision: Integrate all global MRIO databases





- **Raw data integration:** Raw data for all three databases were integrated in their native classification into the IELab
- **Balancing:** All three databases can be balanced within the IELab

**Eora, Exiobase, and WIOD can be generated within the IELab**



- **Adjustment of raw data to a common global root classification**
- **Integration of superior data (constraints):** Integration of superior data into the IELab to allow for “cross-reconciliation”.





1. Build an MRIO framework for the same time series span as Eora (1970-2012), but use construct this MRIO time series in Exiobase classification and use Eora superior data where Exiobase does not provide data.
2. Extend WIOD's current time series forward or backwards
3. Build an Eora-type MRIO-framework, but use WIOD superior data instead of Eora's superior data during the construction process

Lenzen et al:



**Compiling and using input–output  
frameworks through collaborative virtual  
laboratories,**

*Science of the total environment*, 485:241-251,  
2014



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