

Example of two patents:

Patent A

Year: 2000 Inventor: KIM (KR) JACKSON (US)
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Patent B

Year: 2000 Inventor: LEE (KR) CURRY(US) JAMES (US)
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PATSTAT

PATSTAT\_1. Calculate country share for each patent

Patent	Year	Inventor	Inventor's country
A	2000	KIM	KR
A	2000	JACKSON	US
A	2000	LEE	KR
B	2000	CURRY	US
B	2000	JAMES	US



Patent	Year	Inventor's country	Country share
A	2000	KR	2/3
A	2000	US	1/3
B	2000	US	1/2+1/2=1

$$\text{Country share} = \frac{\sum \text{number of inventors by country}}{\sum \text{number of inventors in patent}}$$

PATSTAT\_2. Add IPC table

Patent	Inventor's country	Year	IPC	Country share
A	KR	2000	IPC.1	2/3
A	KR	2000	IPC.2	2/3
A	US	2000	IPC.1	1/3
A	US	2000	IPC.2	1/3
B	US	2000	IPC.1	1
B	US	2000	IPC.3	1

PATSTAT\_3. Add NACE2 using PATSTAT's TLS902\_IPC\_NACE2

Patent	Inventor's country	Year	IPC	NACE2	Country share
A	KR	2000	IPC.1	10	2/3
A	KR	2000	IPC.2	11	2/3
A	US	2000	IPC.1	10	1/3
A	US	2000	IPC.2	11	1/3
B	US	2000	IPC.1	10	1
B	US	2000	IPC.3	12	1

PATSTAT\_4. Calculate country-year-industry(NACE2) level innovative capacity

Country	Year	NACE2	Innovative capacity
KR	2000	10	2/3
KR	2000	11	2/3
US	2000	10	1/3+1=4/3
US	2000	11	1/3
US	2000	12	1

$$\text{country - industry's annual innovative capacity (in a distint technology defined by NACE 2 code)} = \sum_{i,j \in J,t} IPC_{i,j,t}$$

where  $i$  = country,  $j$  = industry (NACE2),  $t$  = year,  
 $IPC$  = country share of IPC used for patent application

Example of two patents:

Patent A

Year: 2000
Inventor: KIM (KR) JACKSON (US)

Patent B

Year: 2000
Inventor: LEE (KR) CURRY(US) JAMES (US)

WIOD

WIOD\_1. Merge technology intensity

EUROSTAT's IPC-Manufacturing's tech intensity table

IPC	Tech intensity
IPC.1	High
IPC.2	Mid-high



Country	Network measures	VA	Industry (NACE Rev.2)	Tech intensity
KR			10	High
KR			11	Mid-high
KR			...	
US			10	High
US			11	Mid-high
US			...	

INTEGRATED DATA SET

MERGE PATSTAT\_3 and WIOD\_1 by country-year-Industry (NACE Rev.2)

Inventor's country	Year	NACE2	Innovative capacity	Network measures	VA	Tech intensity
KR	2000	10	2/3			High
KR	2000	11	2/3			Mid-high
US	2000	10	1/3+1=4/3			High
US	2000	11	1/3			Mid-high