

# Interdisciplinary Project: Update of patent database PATSTAT

The Chair for Technology and Innovation Management of Prof. Henkel is looking for applications for an interdisciplinary project (IDP).

## Update of the patent database PATSTAT and the corresponding legal status database INPADOC and implementation of additional data fields

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**Planned starting date:** ASAP

**Duration:** (6 month part-time or 3 month full-time)

**Required skills:** SQL

### *Detailed background:*

Intellectual property rights are one of the most critical enablers of many fields of innovation and research which are key to our knowledge-based economy. In turn one of the strongest forms of IP protection is through the application for and grant of patents. Due to the inherent design of the patent system a vast amount of information is publicly available and therefore a great source of information for various research projects.

At the TIM chair we are using this patent data in various ways – be it to understand the proliferation of design rights, the invalidation of patents through lawsuits, the necessity of patents to establish a market for technology or the application of ICT patents around the globe.

In order to support our research we need to replace an old version of the linked patent databases PATSTAT and INPADOC (Oct 2015) with the latest available version from 2018. Subsequently, several additional queries will need to be performed in order to create customized data fields that will help facilitate our research.

*Work packages:*

### 1. Preparation

- a. **Familiarize yourself with the topic of patents:** Get up to speed on the working mechanisms of the patenting system and understand the differences between the approaches by different countries
- b. **Introduction to the databases:** Understand the data structure and relations between datasets within PATSTAT and INPADOC using a descriptive Entity-Relationship-Model

2. **Update of the PATSTAT and INPADOC database:** Aggregate the parts from the original data provision to a single SQL file and verify functionality. Get in touch with LRZ to facilitate hosting of the database.

### 3. Extension of database

The database needs to be expanded by the following variables (this is a preliminary list, exact requirements will need to be discussed with students):

- a. Time of granting
- b. Time of invalidation/revocation of patent right
- c. Calculation of Grant Lags
- d. Number of “children”
- e. Number of “parents”
- f. Calculation of “family size”
- g. Forward and backward citations
- h. IPC classification
- i. tbd

Some of these variables have been implemented in previous, well-documented IDPs whereas some are new and will require you to develop new queries.

### 4. Application of the above extensions for bespoke analysis

In the context of our various research projects, we will work in close cooperation with the IDP student to apply some of the extensions for customized analysis in order to both validate the correct programming but also to show to the student how his/her fundamental work feeds into our actual research. The scope of this part is also subject to discussion with the student and we would gladly take their interests into account in scoping this section.

Overview of project plan:



