

# IRP 14: Individual Research Project

Topic	Involvement
Challenges and opportunities for the uptaking of technological development by industry	<ul style="list-style-type: none"><li>• IRP belongs to WP2 (AI for financial markets)</li><li>• WP Leader: WWU (Vienna)</li><li>• One supervisor from secondments: UKL</li></ul>
Objectives	Deliverables
The building blocks of any institutional investor's loan portfolio are cash flows. Using public and proprietary data, the doctoral candidate will conduct research and <b>develop a machine learning tool</b> capable of <b>performing grouped time series forecasting on a private debt portfolio</b> spanning multiple geographies, sectors, and whose features can also be grouped at other levels, such as loan amount and interest rate. In our innovation-driven industry, we analyse the obstacles and opportunities associated with adopting technological advances.	The project's outcomes will contribute to the expanding body of knowledge concerning the applications of cutting-edge machine learning and artificial intelligence techniques to traditional financial problems. Specifically, the first phase of the project will concentrate on <b>missing value imputation for loan payment time series</b> , while the second phase will adopt a more general predictive approach, that of <b>grouped time series forecasting</b> , possibly incorporating the first step. The anticipated outcome will be three research/conference papers describing the data analysis, modelling approaches, and experimental results.

## IRP 14 TIMELINE



Contribution to the theoretical and applied expertise in machine learning, times-series forecasting and credit portfolio analysis

