Business Information Systems

Chiara Francalanci

Stefano Bruna (Webscience)

Michele Brustia (1C)

Alessandra Lieto (SDG)

Marco Tramelli (KPMG)

Objectives of the course (BIS1 + BIS2)

from the course description

1. to provide a **functional map** of business information systems and related tools (BI, CRM, ERP, eCommerce, Analytics, Revenue Management, applications of AI, big data and data science,…)
2. to understand how business information systems have evolved over time and how they represent the result of a **continuous and still ongoing functional integration process**
3. to learn about (and experiment with) the main **management approaches and tools** to support the continuous innovation process of business information systems

Organization of the course

- **BIS1 (traditional)**:
  1. Intensive 8-week lecturing
  2. Pre-exam in April (date to be defined at the end of March)
- **BIS2 (experimental)**:
  Students split in two groups, Group 1 and Group 2:
  1. Group 1 students will attend the course by remote, mainly in asynchronous mode, through a mix of recorded lectures, readings and assignments. They will be given the option (it won't be compulsory) to attend specific synchronous, on-location lectures together with Group 2 (see below). In any case, also these lessons will be recorded and made available to all students.
  2. Group 2 students will attend the course on location (compulsory – no exception) and work on a project in class, solving a real problem for a real company with a specific need. Please note that while lectures will be streamed and recorded, project work sessions will not.
  3. Pre-exam at the beginning of June (date to be defined in mid May)

Grading – BIS 1

- Grading is based on multiple-choice questions (with Forms)
- 25 questions in 30 minutes
- Questions have 4 possible answers
- Questions have at least 1 correct answer (but can have 2, 3 or four correct answers)
- It is compulsory to provide an answer to all questions to be able to submit the exam
- If one or multiple answers are wrong for a question, that question receives an evaluation equal to zero points (no negative points are given)

students must remember to bring their PC/tablet to the exam (with the PC/tablet battery fully charged)

Grading – BIS 2

- Students in Group 1 are evaluated based on multiple-choice questions at official exam dates, with the same rules as BIS1 (see previous slide)

- Students in Group 2 are evaluated based on the quality of their work in class (commitment, participation, quality of assigments) based on a self-assessment (e.g. KPMG engagement review) and peer evaluation (Feedback fruit) and do not need to take the final exam based on multiple choice (but you will have to enroll anyway for the score to be recorded). Students in Group 2 can reject their mark and repeat the exam based on multiple-choice questions (same as students in Group 1).

- All students are encouraged to participate in class discussion (you have to be an active learner)

Engagement Review – Business Information Systems Digital Transformation Project work

Please complete with all the useful information regarding the Project work

Student Name	Reviewer Name	Team	Project Hours	Start Date	End Date

Project/Role Description

Goal(s) aligned to this engagement/project (set at the beginning of the project work)

Engagement Review – Business Information Systems Digital Transformation Project work

Please rank each driver based on your/his/her performance, using the following rating scale:

Not applicable - Some development required – Proficient - Definite strenght

Team Member Evaluation	Response			
	Student*	Student Comments	Reviewer*	Reviewer Comments
1. I delivered high quality work that provided value				
2. I contributed to an inclusive and collaborative team environment				
3. I inspired trust through exercising sound and ethical judgement				
4. I demonstrated an innovative approach				
5. I actively contributed to the development and motivation of peers and team members				
6. I regularly sought feedback on my performance to support my ongoing personal growth				
7. I have been authonomous in carrying out all project activities				
8. I have planned the activities efficiently within the project deadlines				
9. I have been proactive in seizing new business opportunities and customer needs				

Engagement Review – Business Information Systems Digital Transformation Project work

Please give a qualitative Self-evaluation/Evaluation and the final ranking

Team Member Evaluation	Response	
	Student	Reviewer
When I reflect on this engagement, the contribution I am most proud of is … and what I have learned is …		
My feedback on this person's contribution during this engagement/project is … and my suggestions for improvement are …		
How do I evaluate my performance on this engagement?*		

*Rank this question using the following

rating scale:

(Lowest) 5 – 4 – 3 - 2 – 1 (Higher)

Selection process for Group 2 – BIS 2

- Group 2 includes a maximum number of 35 students
- ~20 students are selected based on their CV: graduation mark, master average exam score (if the student has a minimum of 30 credits passed) and BIS1 score
- ~ 15 students are selected based on their motivation, to be documented in a motivation letter (2500 characters max including spaces, open format)
- **applications should be made via email (chiara.francalanci@polimi.it) starting from February 20 2:00 pm and before March 16 11:00 pm, attaching CV and motivation letter in pdf**
- Having both BIS1 and BIS2 in your study plan is a mandatory requirement to be in Group 2

Can you be removed from Group 2 ?

Yes, you have to work seriously to remain in Group 2, more precisely:

- Attend classes (you can skip a maximum of 3 classes)
- Do your homework (you can skip a maximum of 1 delivery)
- Meet deadlines (you can be late only once)

If you are removed from Group 2, you will have to join Group 1 and take the final exam.

You will have your chance to evaluate us too!

Why «experimental» ?

- BIS2 is experimental as it tests the management of the same course with two teaching approaches, which are blended based on the preferences of students, their inclinations, favourite approach to learning and personal/contextual constraints.
- BIS2 also experiments with the concepts of 1) selection, 2) motivation and 3) no final exam…but more work (similar to your future professional life).
- Note that the downside of "selection" is mitigated by the idea to have many course organized in this way in the future, with each student admitted to a least one "Group 2".

Group 1 and Group 2 differ in the teaching approach, but they reach the same learning objectives!
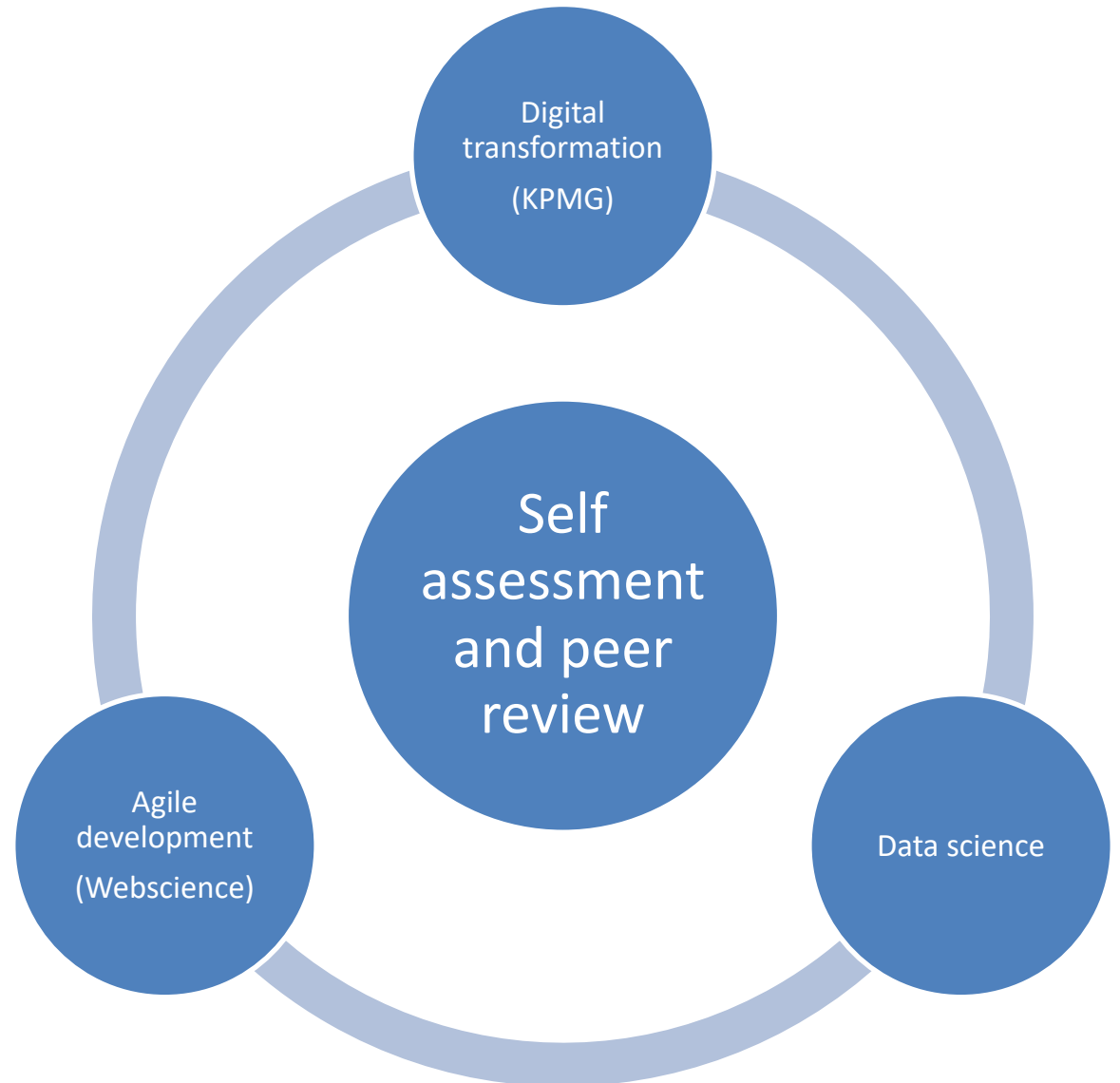**This is the only course in Politecnico with this feature.**

Group 2 – Description of project work

- **Goal**: learn how to behave in a real work environment (hard and soft skills)
- What: execute tasks in different phases of a real BIS strategic project (authentic learning)
- How: produce professional outputs with tools such as Holaspirit, Knime, Jira, Miro, Notion, Talend…
- Learn personal evaluation methods: KPMG engagement review
- Address a real business problem with real data
- Present your solution to company top management
- **Workload**: classes according to class schedule (8 hour/week) and assignments (2-4 hour/week)

Group 2 – Three pillars of project work

Project work will touch on three phases of a BIS strategic project:
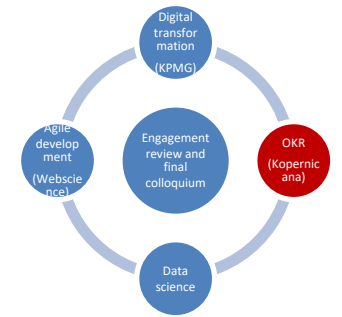
1. Understanding and planning the **digital transformation**
2. Measuring, prioritizing and controlling with data science
3. Analyzing, modeling and implementing with **agile approaches**

Group 2 – Use case of 2023 project work

- **Client**: eGeos (Leonardo company)
- **Industry**: space, data services.
- **Goal of project work**: design a recommendation system for the acquisition of satellite data to monitor critical events primarily related to security and emergency.
- **Problem**: tie breaking news to the need of the right satellite data, with the right level of definition, at the right time, from the best source.
- **Solution**: a service automatically collecting news, filtering the news relevant for satellite data services, identifying the right data from the right source, possibly tasking the required satellites (when possible).
- **Your "cooperative" contribution**: you will frame the problem, design the solution, prepare the documentation needed to present the solution to the client and implement a prototype to test your solution.

Group 2 – Timeline of 2023 project work

- You will start as soon as BIS2 starts
- Solution should be ready by the end of BIS2
- You will present the solution to the client (eGeos) on **May 29** (representatives of eGeos will attend the final presentation event and provide you with professional feedback)
- You will be coached by professors and professionals in your assignment
- Our general goal is:
  - ✓ to reach professional level of quality
  - ✓ to make the client happy
- Your client is eGeos, not me. I will be a coach.

Background of lecturers – Chiara Francalanci

Chiara Francalanci
Professor
Politecnico di Milano

Chiara Francalanci was born in 1968 in Piacenza (Italy). She graduated in Electronic Engineering from Politecnico di Milano in 1991, where she has also completed her Ph.D. in Computer Science in 1996. She has worked for two years as a junior consultant in Nolan Norton & Co. (now KPMG), assessing IT management maturity with the balanced scorecard. With the support of Nolan Norton & Co., she has worked for two years at the Harvard Business School, where she also graduated in Management of the Information Systems Resource. She has extensively consulted in the financial, retail and manufacturing industries, both in Europe and the U.S. In 2001, she became associate professor of business information systems at Politecnico di Milano. She has international teaching experience and consolidated management skills of research projects, both private- and public-funded, Italian and European. She has designed, developed, patented and sold to companies several innovative algorithms and systems. She has coordinated industrial projects on algorithms for customer segmentation, predictive modelling and online recommendation systems. In 2011, she has launched her first startup, Jeenuin Inc. in Silicon Valley, to develop a sentiment analysis software. In 2018, she co-founded Cherrydata in Milan, Italy.

Background of lecturers – Stefano Bruna

Stefano Bruna
CTO, Webscience

Stefano Bruna I am passionate about the design and development of software solutions. I use innovative methodologies, tools and platforms that enable the implementation of solutions with a clear impact on competitive advantage.
Role:
- Design and development of application solutions using state-of-the-art innovative technologies
- I have worked on numerous projects for the evolution of both application and enterprise architectures. The goal was to transition legacy systems to solutions based on SOA architectures or microservices.
- Design and implementation of Dev-Ops solutions by defining and implementing agile end-to-end software lifecycle management processes.
- Technology advisor to large Italian companies –
- I carry out assessment, performance analysis & tuning activities

Competences:
- Agile software development
- Microservice architectures
- Enterprise architecture
- Dev-Ops
- Cloud & Hybrid systems

Background of lecturers – Michele Brustia

Michele Brustia
CEO, 1C Italia

Michele Brustia is currently CEO of 1C Italia, the Italian branch of 1C Enteprise, the leading Russian ERP software company. After completing his studies in environmental engineering, he has worked for several years for leading business consulting companies, including Deloitte Consulting and Altran. In 2003, he moved to the Baltic Republic working for Foster Wheeler as administration and logistic coordinator and contract supervisor for Foster Wheeler Italy S.p.A. on the Mazeikiu Nafta Project. In the years 2008-2010, he lead the Italian-Russian Chamber of Commerce as General Secretary. In 2010, he was hired by the consulting and engineering company Capex Engineering AG based in Lugano (Switzerland) focusing mainly on the Oil&Gas, infrastructure and civil construction industries.

At the end of 2010, he opened his Consulting Company (MBT Consulting, OOO) in Krasnodar (Russia). MBT Consulting is still active in the South of Russia, working with Russian and Italian companies and also with the local public administration. MBT Consulting has developed a vast experience in the construction sector working for major companies, including Development Yug - www.develug.ru). In 2017, he joined the 1C and successfully launched the Italian subsidiary of the company.

Background of lecturers – Paolo Coacci

Paolo Coacci
Partner
KPMG Advisory

Paolo Coacci was born in 1965 in Ancona (Italy).
He graduated in Electronic Engineering & Telecommunications.

Present position at KPMG:
- Head of Enterprise Platform Services line of services
- Head of LightHouse services (D&A, Intelligent Automation and Software development)
- Head of Alliances

In Andersen Consulting from 1990 to 1997, Paolo has been working for KPMG Advisory since 1997.

He accomplished several management consulting projects, ITC strategy projects , design and implementation of ERP, SCM, SRM, CRM and EPM solutions.

Business Sectors: Automotive, Industrial MachineryConsumer goods, Chemical & Pharmaceutical, Paper & Pulp, Sevice providers, and Public Sector.

Background of lecturers – Gaetano Correnti

Gaetano Correnti
Partner
CIO Advisory Service
KPMG Advisory

Gaetano Correnti is CEO of Nolan, Norton Italia, the IT Strategy Line of Service of KPMG Advisory, and Partner in charge of KPMG CIO Adviosry Service in Italy. He graduated in Computer Engineering from Università La Sapienza and completed an Executive Master in ICT Management from MIP Politecnico of Milan.
Gaetano has over 20 years' working experience in ICT Strategy and Management, after previous significant experiences in System Integration.
Since 2004 Gaetano has focused on IT Advisory in the Financial Services field, supporting banks and financial organizations' strategic choices of ICT evolution. His goal working with clients is to develop service delivery capabilities through appropriate sourcing strategies, business cases, operating and management models, governance.
He has strong expertise in Program-Project Management, Business Continuity Management, Software Engineering and Quality Management, Governance and organization of processes, ICT and Security Architectures Strategic planning and ICT, applicative and technological architecture.
He is also Lead Auditor BS 27999 (Business Continuity Management) and MBCI membership of the BCI.

Background of lecturers – Mario Galazzi

Mario Galazzi
Partner
Enterprise Platforms EC
KPMG Advisory

Education and qualifications	Degree in Economics, "Cattolica del Sacro Cuore" University, Milan
	Project Management Specialist Certified by IPMA (International Project Management Association)
Experiences	Mario accomplished several management consulting projects, design and implementation of ERP, SCM, SRM, CRM and CPM solutions.
	Major projects:
	— Beverage sector: Engagement Partner in SAP initiatives within Campari Group.
	— Industrial sector: Engagement Partner and Project Manager in an SAP CRM project including Service, Sales and Marketing Scenario.
	— Travel sector: Retail Platform implementation including store software solution and back office ERP
	— Consumer goods sector: Design and implementation new Gross Margin model in SAP System as accounting system and Hyperion as managerial reporting tool.
	— Industrial sector: SAP Merging to support operational merging between companies.
	— Healthcare sector: JD Edwards design and Implementation and store software reengineering.
	— Construction sector: SAP ERP After Sales Design and Implementation.
	— Electricity sector: Release upgrade and Global Treasury Platform Implementation.
	— Electrical Electronic Industry: SAP SCM.
	— Materials industry: Design and Implementation of SAP system in Foundry sector.
	— Transportation sector: SAP Design and implementation.
	— Chemical sector: SAP carve out using SLO (System Landscape Optimization).
	— Transportation sector: SAP project Design and Implementation.
	— Industrial sector: SAP ERP Upgrade, SAP BW Design and Implementation for after sales business, SAP CRM Design and Implementation of CRM solution for Parts Internet Sales and Truck Web configurator.
	— Construction sector: SAP Kanban and WM design and Implementation solution.
Industry experiences	Retail, Beverage, Automotive, Industrial Machinery, Consumer goods, Chemical, Services after Sales.
Key skills	Customer Engagement Solution, Software Selection and Design, Program and Project Management, Change Management and Business Process Reengineering, Implementation projects.
Languages	Italian: mother-tongue, English: fluent, French: educational.

Background of lecturers – Alessandra Lieto

Alessandra Lieto was born in 1990 in Magenta (Milan, Italy). She graduated in Mathematical Engineering from Politecnico di Milano and started her career in the Consulting industry in 2017 as Business Analyst.

Alessandra is currently a Senior Qualified with a focus in Business Intelligence Projects as Functional Lead and Project Manager.

SDG Group is an international consulting firm working in the fields of Planning & Controlling, Financial Reporting, Operational Performance Management and Marketing projects.

Alessandra has been working in the Business Unit specialized in SAP solutions, working in Business Intelligence Projects both on data modeling and on data visualization for around 20 different companies belonging to different industries (manufacturing, fashion, food & beverage, healthcare, utilities). Using an innovative management approach for each industry's needs, the goal has always been to unlock and enable new ways to better manage their specific analytics requirements.

Alessandra Lieto
Senior Consultant, SDG Group

Background of lecturers – Davide Macchi

Davide Macchi
Associate Partner
LightHouse Intelligent Automation
KPMG Advisory

Education and qualifications	Degree in Business Administration, Università Cattolica, Milan
	Researcher in economics and econometrics, New York State University, Albany, NY
	Specialization in Business and Technology, Kansai Daigaku Univeristy, Osaka, Japan
Experiences	His current role consists in Business Process Management suite design and implementation project and on how to apply technology that can enable the execution and re-engineering of processes. He has also experience in Business Intelligence project with specific expertise for the Financial Consolidation and Planning Processes areas. He contributes to several consulting projects, design and implementation of portal, collaboration and business process management application in the following projects:
	— Luxury sector: Design and implementation of the new collaborative business process management tool (Appian BPM) in order to support new product development, financial control and analysis, media planning, operative control, license contract definition processes and procedures. Definition of the new IT architecture and implementation of portal and collaboration application.
	— Oil&Gas sector: Design and implementation of the new business process management tool (Appian BPM) in order to manage project management and workforce scheduling.
	— Industrial sector: Design and implementation of the new collaborative portal and business process management tool (Appian BPM) in order to support new product development, production quality control, environment health and safety, invoice verification, production fault, scouting for innovative materials, vendor rating and procurement processes.
	— Game sector: Implementation of business process management tool (Appian BPM) in order to support collaborative logistic processes for return of lottery winning tickets and for contract approval process.
	— Luxury sector: Design and implementation of the new business process management tool (Appian BPM) in order to support indirect purchase order process integrated with SAP ERP.
	— Healthcare sector: Design and implementation of the new business process management tool (Appian BPM) in order to support the due diligence and approval process for the involvement of Health Care Professional in event (Foreign Corrupt Practice Act).
	— Consumer sector: Design and implementation of the new business process management tool (Appian BPM) in order to support project budget setup and order lifecycle for Infrastructure Services and Hardware.
	— Pharma sector: Design and implementation of the new business process management tool (Appian BPM) in order to support regulatory, material management process. The project includes process re-engineering inspired to lean management principles and process optimization.
	— Banking sector: Process re-engineering, design and implementation of the new business process management tool (Appian BPM) in order to support credit collection process.
	— Consultancy: Process re-engineering, design and implementation of the new business process management tool (Appian BPM) in order to support loan origination process.
	— Beverage sector: Process re-engineering, design and implementation of the new business process management tool (Appian BPM) in order to support general ledger and vendor master data processes.
	— Agro-food sector: Design and implementation of the new business process management tool (Appian BPM) in order to support indirect purchase order process integrated with JD Edwards.
Industry experiences	Life Sciences, Automotive, Chemical, Media & Telecomunication, Manufacturing.
Key skills	Appian BPM, Metastorm BPM, Lombardi BPM, Document Management System, Business Intelligence, BPR, PM & PMO, SAP ECC (SD e MM), SAP PI, Cognos Controller.
Languages	Italian: native language; English: fluent (speaking, reading, writing), Spanish: basic (reading, speaking), Japanese: basic (reading, writing, speaking).

Background of lecturers – Marco Tramelli

Marco Tramelli
Senior Manager
Customer Operations
KPMG Advisory

Education and qualifications	• Degree in Management Engineering from Politecnico di Milano • Coupa P2P certified
Experiences	Marco Tramelli is Senior Manager of Customer & Operation in KPMG Advisory, he has 10 years of experience in management consulting and has worked on several national and international ERP design and implementation projects with focus on the supply chain processes and on the integration between SAP ERP and other systems. Main Projects: • Coupa core model design and implementation for 7 countries in P2O transformation for a food and beverage company • Pilot roll-out of a Coupa P2O solution for a food & beverage company • Definition of a S2P target operating model and implementation of the IT solution • Process enhancement, business blueprint design and system implementation of SAP ERP SD and MM modules • IT Assessment analysis focused on e-procurement platforms • Requirement definition, gap analysis and to-be model implementation for P2P process • IT interface Design and implementation • Data model design • Data integration and migration strategy definition • Change Management activities' definition on IT system implementations project
Industry experiences	Food & Beverage; Automotive; Utilities; Chemical; Fashion.
Key skills	He has deep knowledge of Business Process Analysis , Re-engineering, IT model design implementation and integration
Languages	Italian: native language; English: Business Fluent

Background of lecturers – Rosanna Zanon

Rosanna Zanon
Senior Manager
KPMG CIO Advisory

Rosanna Zanon is a Senior Manager for KPMG/Nolan, Norton Italia, working on IT Advisory. She has over 20 years of international experience in the financial services industry.

Rosanna joined KPMG and its CIO Advisory Service in 2017. Since then, she has been involved in several complex transformation projects: her goal working with clients is to develop effective business-IT linkage through appropriate application architectures, operating and management models, project governance frameworks.

She has a significant experience in multicultural environments: she graduated at the Open University in the United Kingdom and attended post graduate courses at the University of Reading and the University of Warwick.

Previously, she worked as a Development Team Leader in a a global fintech and payments company in London before going back to Italy, where she worked as a Product and Program Manager for a System Integrator of software solutions in the financial domain.

Thesis, research and technology transfer

- Thesis work available in the research area of BIS will be presented during the course

- Stage opportunities will be shared when available

- Common feature of thesis work in BIS: applied research, addressing a pratical issue through innovation, seeking constant cooperation with companies

- Possible outcomes: OS software, Patents, technology transfer and startups

Summary

- Do you feel traditional?
  - if yes, do nothing
- Do you feel experimental?
  - please apply by providing information via email (see slide 9) by March 15, 2022

Let me remind you that students in Group 2 are evaluated based on the quality of their work in class and do not need to take the final exam (but will have to enroll anyway for the score to be recorded in the system).

Reference material

- slides, which are uploaded on WeBeep
- recorded classes (links to lessons are published on Beep)
- additional readings will be provided to you during the course

it is strongly recommended that students attend classes (or watch the videos carefully) as the explanations given in class are part of the exam

Questions ?