NARXOZ UNIVERSITY

QUALITY ASSURANCE IN THE ERA OF ARTIFICIAL INTELLIGENCE:

CHALLENGES, OPPORTUNITIES AND APPROACHES

ARTIFICIAL INTELLIGENCE

THE STUDY AND DEVELOPMENT OF COMPUTER SYSTEMS THAT CAN COPY INTELLIGENT HUMAN BEHAVIOUR

- OXFORD DICTIONARY

LARGE LANGUAGE MODEL

IS A TYPE OF MACHINE LEARNING MODEL THAT CAN PERFORM A VARIETY OF NATURAL LANGUAGE PROCESSING (NLP) TASKS, INCLUDING GENERATING AND CLASSIFYING TEXT, ANSWERING QUESTIONS IN A CONVERSATIONAL MANNER AND TRANSLATING TEXT FROM ONE LANGUAGE TO ANOTHER

- TECHOPEDIA

AI MARKET SIZE

$86,9 BLM (2022) → $407 BLN (2027)

WORLD ECONOMIC FORUM

97%

OF BUSINESS OWNERS BELIEVE CHATGPT WILL HELP THEIR BUSINESS

FORBES ADVISOR

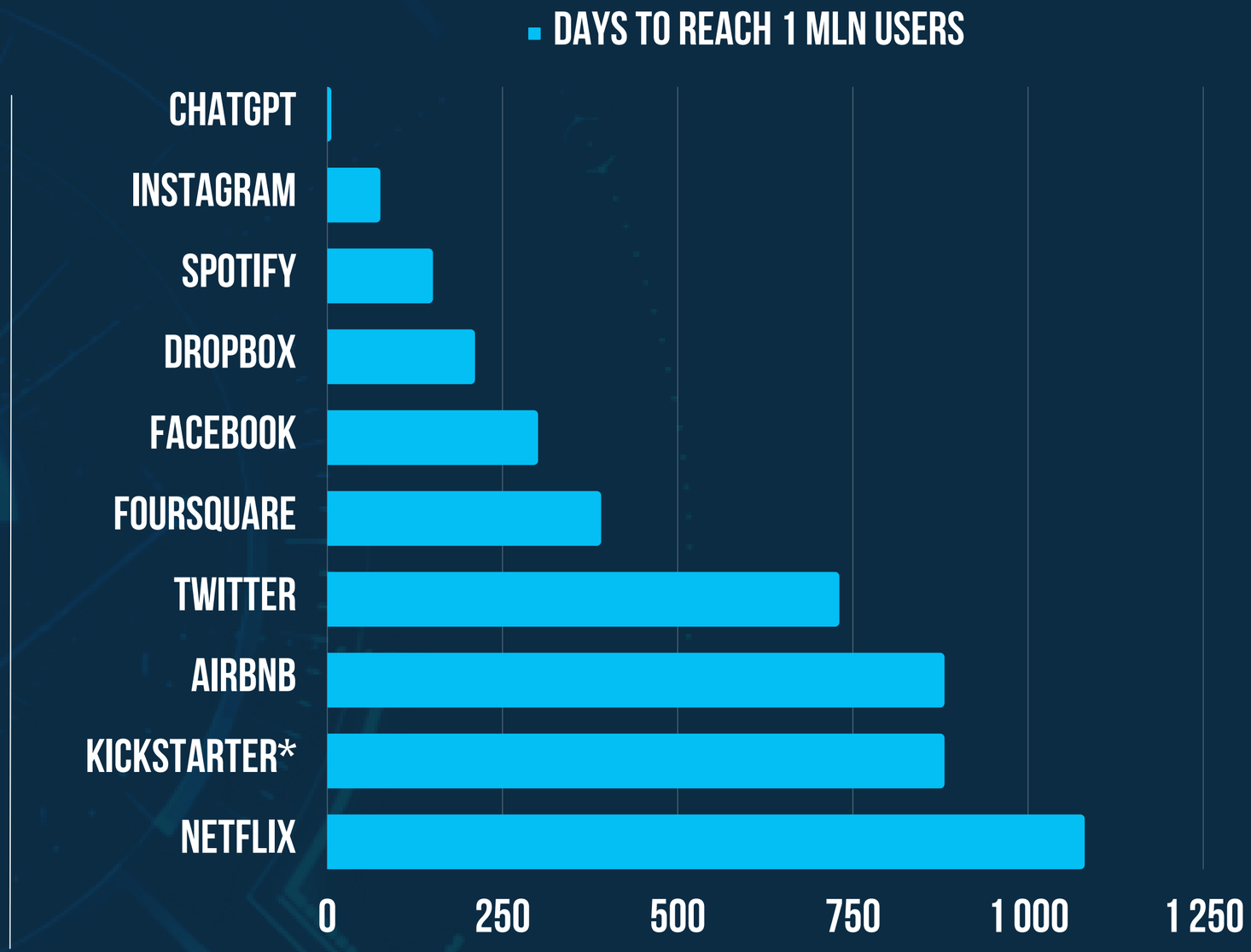
400 MILLION WORKERS COULD BE DISPLACED BECAUSE OF AI

AI WILL CREATE 97 MILLION JOBS

McKinsey & Company

1,8 BLN

USERS MONTHLY VISIT
CHAT.OPENAI.COM



ARE LLM GPT MODELS GPT?

- A GENERATIVE PRE-TRAINED TRANSFORMER (GPT) IS A TYPE OF LANGUAGE MODEL SUCH AS THOSE DEVELOPED BY OPENAI THAT USES DEEP LEARNING TECHNIQUES TO GENERATE NATURAL LANGUAGE TEXT

- GENERAL PURPOSE TECHNOLOGIES (GPT) ARE TRANSFORMATIVE TECHNOLOGIES THAT HAVE THE POTENTIAL TO SIGNIFICANTLY IMPACT A WIDE RANGE OF INDUSTRIES AND ECONOMIC ACTIVITIES

- FUNDAMENTAL SHIFT IN THE WAY THAT GOODS AND SERVICES ARE PRODUCED

- CREATE NEW MARKETS AND INDUSTRIES WHILE ALSO DISRUPTING / DESTROYING EXISTING ONES

- EXAMPLES: THE STEAM ENGINE, THE COMPUTER, AND THE INTERNET

EXAMPLES OF AI AS A GENERAL PURPOSE TECHNOLOGY

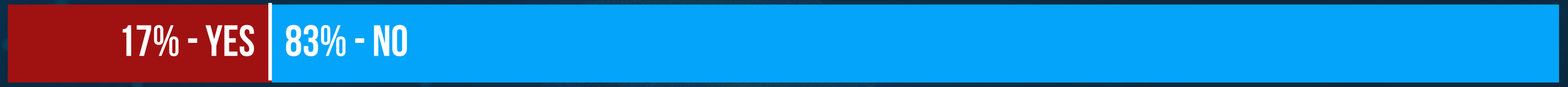
- **FINANCE** - MACHINE LEARNING DRIVES ANALYTICS AND FORECASTING, CREDIT ASSESSMENT, FRAUD DETECTION, HIGH FREQUENCY TRADING, INVESTMENT STRATEGIES, FOREIGN EXCHANGE TRADING
- **MEDICINE** - MEDICAL RECORD MANAGEMENT AND ASSESSMENT (EG RADIOGRAPH/MRI ASSESSMENT), ILLNESS IDENTIFICATION/SYMPTOM CLASSIFICATION, PHARMACEUTICAL R&D
- **MARKETING** - PREDICTIVE MARKETING ANALYTICS, DYNAMIC PRICING, CHATBOTS, PERSONALIZED MESSAGING
- **RETAIL** - SUPPLY CHAIN MANAGEMENT, DEMAND FORECASTING, PERSONALIZED SHOPPING, INVENTORY MANAGEMENT AND CUSTOMER SERVICE
- **AGRICULTURE** - CROP MIX ASSESSMENT, YIELD FORECASTS, METEOROLOGICAL ANALYSIS, CROP CYCLE AND SUPPLY CHAIN OPTIMIZATION
- **FILM** - SCRIPTWRITING, PLANNING, FORECASTING, CASTING, EDITING, MUSICAL SCORES

LEAKS OR SUPPORT?: REAL CASES*

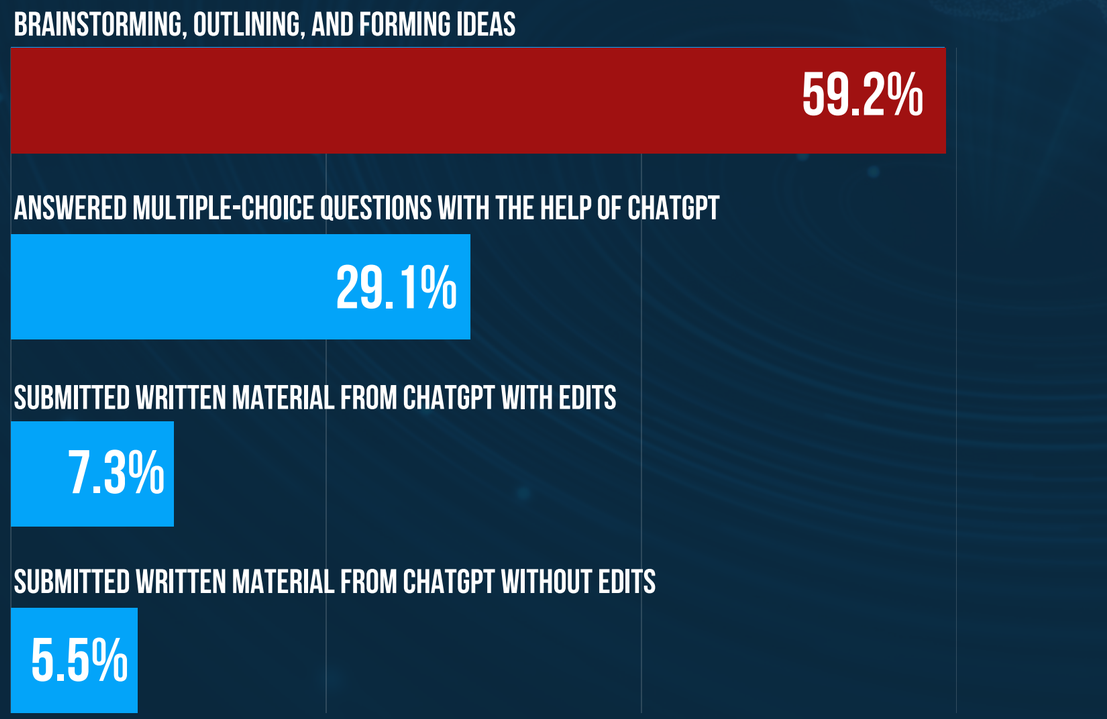
- THE MANAGER CUT AND PASTED A DOCUMENT ABOUT AN AS-YET UNPUBLISHED 2023 PUBLIC COMPANY STRATEGY INTO CHATGPT AND ASKED IT TO CREATE A PRESENTATION;
- THE PHYSICIAN ENTERED HIS PATIENT'S NAME AND MEDICAL HISTORY AND ASKED CHATGPT TO SEND A LETTER TO THE INSURANCE COMPANY;
- A LAWYER ADDED A DEFENSE STRATEGY IN THE DEFENDANT'S CRIMINAL COMPLAINT TO CHATGPT AND ASKED IT TO WORK UP A DIALOGUE WITH THE DEFENDANT'S REPRESENTATIVES;
- THE PRIME MINISTER OF A NEIGHBORING STATE RECENTLY BOASTED THAT HE HAD WRITTEN HIS SPEECH FOR SUMMIT IN CHATGPT.

*FORBES.KZ

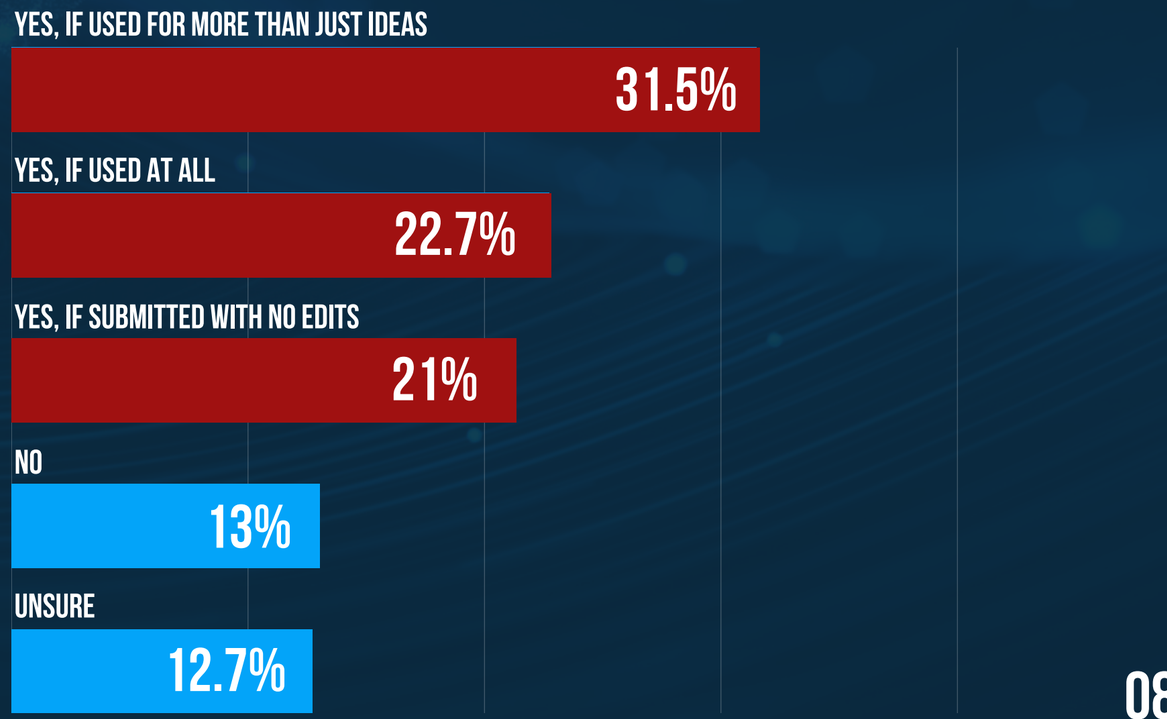
1. DID YOU USE CHATGPT ON ANY FALL QUARTER FINAL ASSIGNMENTS OR EXAMS?



2. IF YOU USED CHATGPT, TO WHAT EXTENT DID YOU USE IT?



3. USING CHATGPT IS VIOLATION OF ACADEMIC HONOR CODE?



AN ANONYMOUS POLL UPLOADED ON HTTPS://FIZZSOCIAL.APP/, 4,497 STANFORD STUDENTS

WHAT'S GOOD FOR BUSINESS MAY BE BAD FOR EDUCATION

- RESEARCH, CONTENT GENERATION AND ANALYSIS ARE KEY PRODUCTIVITY DRIVERS FOR BUSINESS
- BUT THEY ARE ALSO THE CORE OF THE EDUCATION PROCESS
- IF THESE ARE REPLACED BY LLM AND OTHER AI, WHAT IS LEFT FOR UNIVERSITIES?

AI IN EDUCATION - THREAT OR OPPORTUNITY?

- ✗ INACCURACY OF INFORMATION
- ✗ RISKS FOR CYBERSECURITY
- ✗ EASY TO PLAGIARIZE

- ✓ ACCESSIBILITY OF INFORMATION
- ✓ NEW ECOSYSTEM OF SOLUTIONS
- ✓ FACILITATING COMPLEX LEARNING

USING AI FOR TEACHING

ENHANCE LESSONS	TEACHERS CAN USE CHATGPT TO TRANSLATE LEARNING OBJECTIVES INTO ENGAGING LESSON PLANS, GET IDEAS FOR PREPARING CLASSES, OR DRAFT NEW ASSIGNMENTS OR ASSESSMENTS
CREATE ASSESSMENT QUESTIONS	TEACHERS COULD USE CHATGPT TO IMPROVE ASSESSMENT QUESTIONS AND GENERATE MULTIPLE-CHOICE ITEMS
ADDITIONAL SUPPORT TO STUDENTS	TEACHERS COULD USE CHATGPT TO CULTIVATE STUDENT CURIOSITY AND CREATE IDEAS FOR THEIR HOMEWORK ASSIGNMENTS. AI TOOLS ARE PARTICULARLY USEFUL WHEN THEY IDENTIFY THE INFORMATION USED IN THE CHATS
GRADING ASSESSMENTS / PAPERS	CHATGPT CAN BE USED TO AUTOMATICALLY GRADE MULTIPLE-CHOICE / ONE-ANSWER TESTS; IT CAN ALSO HELP TEACHERS WITH STANDARDS-BASED GRADING

BLOGS.WORLDBANK.ORG

AN EXISTENTIAL THREAT?

- AI, PARTICULARLY LLM, ARE AN EXISTENTIAL THREAT TO UNIVERSITIES
- ORGANIZATIONS BASED ONLY ON INFORMATION PROVISION AND KNOWLEDGE TRANSFER HAVE AN UNCERTAIN FUTURE
- ONLINE QUALITY LEARNING (COURSERA) AND 'INTELLIGENT' LLMS LIKE CHATGPT UNDERMINE THE 'MASS HIGHER EDUCATION' MODEL
- FUTURE UNIVERSITIES MUST FOCUS FIRST ON DEVELOPING HUMAN CAPACITY - CAPACITY TO LEARN, TO THINK CRITICALLY, TO UNDERSTAND CONTEXT AND OTHER PEOPLE, TO SOLVE COMPLEX PROBLEMS AND COLLABORATE
- UNIVERSITIES THAT CANNOT CHANGE WILL NOT SURVIVE
- THE CHALLENGE IS HOW TO CHANGE WITHOUT BEING ONLY FOR THE ELITE

MULTIPLE PERSPECTIVES

ALLOWED

"IT IS A **POSITIVE DISRUPTION**. FOR EXAMPLE, CHATGPT CAN GIVE STUDENTS MORE EXAMPLES OF ARGUMENTS TO HELP THEM UNDERSTAND WHAT AN UNDERLYING ARGUMENT STRUCTURE COULD BE, AND PROVIDES AN ACCESSIBLE, LOW-STAKES AUDIENCE TO CHALLENGE STUDENTS WHEN LEARNING TO WRITE..."

- SARAH R. LEVINE,
ASSISTANT PROFESSOR IN STANFORD GRADUATE SCHOOL OF EDUCATION

50/50

"STUDENTS ARE WELCOME TO USE CHATGPT, WHETHER FOR WRITING THEIR CODE OR THEIR FINAL REPORTS. THE ONLY STIPULATION IS THAT **TO INFORM PROFESSOR** WHEN THEY'VE USED THE APPLICATION AND UNDERSTAND THAT THEY'RE STILL RESPONSIBLE FOR THE WORK..."

- GABRIEL KREIMAN,
HARVARD MEDICAL SCHOOL PROFESSOR

FORBIDDEN

"A BAN ON THE USE OF CHATGPT, AND ALL OTHER AI-BASED TOOLS, AT SCIENCES PO. WITHOUT TRANSPARENT REFERENCING, STUDENTS **ARE FORBIDDEN TO USE** THE SOFTWARE FOR THE PRODUCTION OF ANY WRITTEN WORK OR PRESENTATIONS, EXCEPT FOR SPECIFIC COURSE PURPOSES, WITH THE SUPERVISION OF A COURSE LEADER..."

- SERGEI GURIEV,
SCIENCES PO'S PROVOST, EMAIL ADDRESSED TO ALL STUDENTS AND FACULTY

UNESCO PRINCIPLES FOR AI AND EDUCATION

STEER AI-AND-EDUCATION POLICY DEVELOPMENT AND PRACTICES TOWARDS PROTECTING HUMAN RIGHTS AND EQUIPPING PEOPLE WITH THE VALUES AND SKILLS NEEDED FOR SUSTAINABLE DEVELOPMENT AND EFFECTIVE HUMAN-MACHINE COLLABORATION IN LIFE, LEARNING AND WORK

AI MUST BE HUMAN-CONTROLLED, SERVICE-CENTERED, AND DESIGNED IN AN ETHICAL, NON-DISCRIMINATORY, EQUITABLE, TRANSPARENT AND AUDITABLE MANNER. WITH MONITORING OF THE IMPACT OF AI ON PEOPLE AND SOCIETY THROUGHOUT THE VALUE CHAINS

FOSTER THE HUMAN VALUES NEEDED TO DEVELOP AND APPLY AI

FOSTER CORPORATE AND CIVIC RESPONSIBILITY FOR ADDRESSING THE CRITICAL SOCIETAL ISSUES RAISED BY AI TECHNOLOGIES (SUCH AS FAIRNESS, TRANSPARENCY, ACCOUNTABILITY, HUMAN RIGHTS, DEMOCRATIC VALUES, BIAS, AND PRIVACY)

ENSURE THAT PEOPLE REMAIN AT THE CORE OF EDUCATION

OECD AI PRINCIPLES OVERVIEW

THE OECD AI PRINCIPLES PROMOTE USE OF AI THAT IS INNOVATIVE AND TRUSTWORTHY AND THAT RESPECTS HUMAN RIGHTS AND DEMOCRATIC VALUES. ADOPTED IN MAY 2019, THEY SET STANDARDS FOR AI THAT ARE PRACTICAL AND FLEXIBLE ENOUGH TO STAND THE TEST OF TIME.

TRANSPARENCY AND EXPLAINABILITY

HUMAN-CENTRED VALUES AND FAIRNESS

ROBUSTNESS, SECURITY AND SAFETY

INCLUSIVE GROWTH, SUSTAINABLE DEVELOPMENT AND WELL-BEING

ACCOUNTABILITY

OECD CLASSIFICATION - POLICY RESPONSES

INDEPENDENT	INTEGRATED	THEMATIC
HAVING STAND-ALONE AI POLICIES AND STRATEGIES, SUCH AS THE EU'S 'THE IMPACT OF ARTIFICIAL INTELLIGENCE ON LEARNING, TEACHING, AND EDUCATION' (TUOMI, 2018), AND CHINA'S (2017) 'NEWGENERATION ARTIFICIAL INTELLIGENCE DEVELOPMENT PLAN'	INTEGRATING THE ELEMENTS OF AI INTO EXISTING EDUCATION OR ICT POLICIES AND STRATEGIES, SUCH AS ARGENTINA'S 'APRENDER CONECTADOS' (MINISTRY OF EDUCATION, ARGENTINA, 2017)	FOCUSING ON ONE SPECIFIC TOPIC RELATING TO AI AND EDUCATION, SUCH AS THE EU'S GENERAL DATA PROTECTION REGULATION (GDPR)
• CHINA • EUROPEAN UNION • MALTA • REPUBLIC OF KOREA • UNITED ARAB EMIRATES • UNITED STATES OF AMERICA	• ARGENTINA • MALAYSIA	• CHINA • ESTONIA • EUROPEAN UNION • SINGAPORE

OVERVIEW OF POLICY GUIDELINES ASSOCIATED WITH AI IN EDUCATION, OECD

HOW UNIVERSITIES CAN ADAPT

- IMPROVE TOOLS FOR DETECTION
- DEVELOP FACULTY AS FACILITATORS AND LEADERS - MUCH MORE THAN TEACHERS
- FOCUS ON CRITICAL THINKING FIRST, SUBJECT DETAIL SECOND
- WORK WITH SMALL NUMBERS OF STUDENTS
- CHANGE ASSESSMENT SYSTEMS TO FIT WITH THE HIGHER ORDER LEARNING NEEDED (NOT ESSAYS, PRESENTATION, CODING EXERCISES, DESIGN PROJECTS)
- ACCEPT THAT THIS FORM OF EDUCATION WILL BE EXPENSIVE

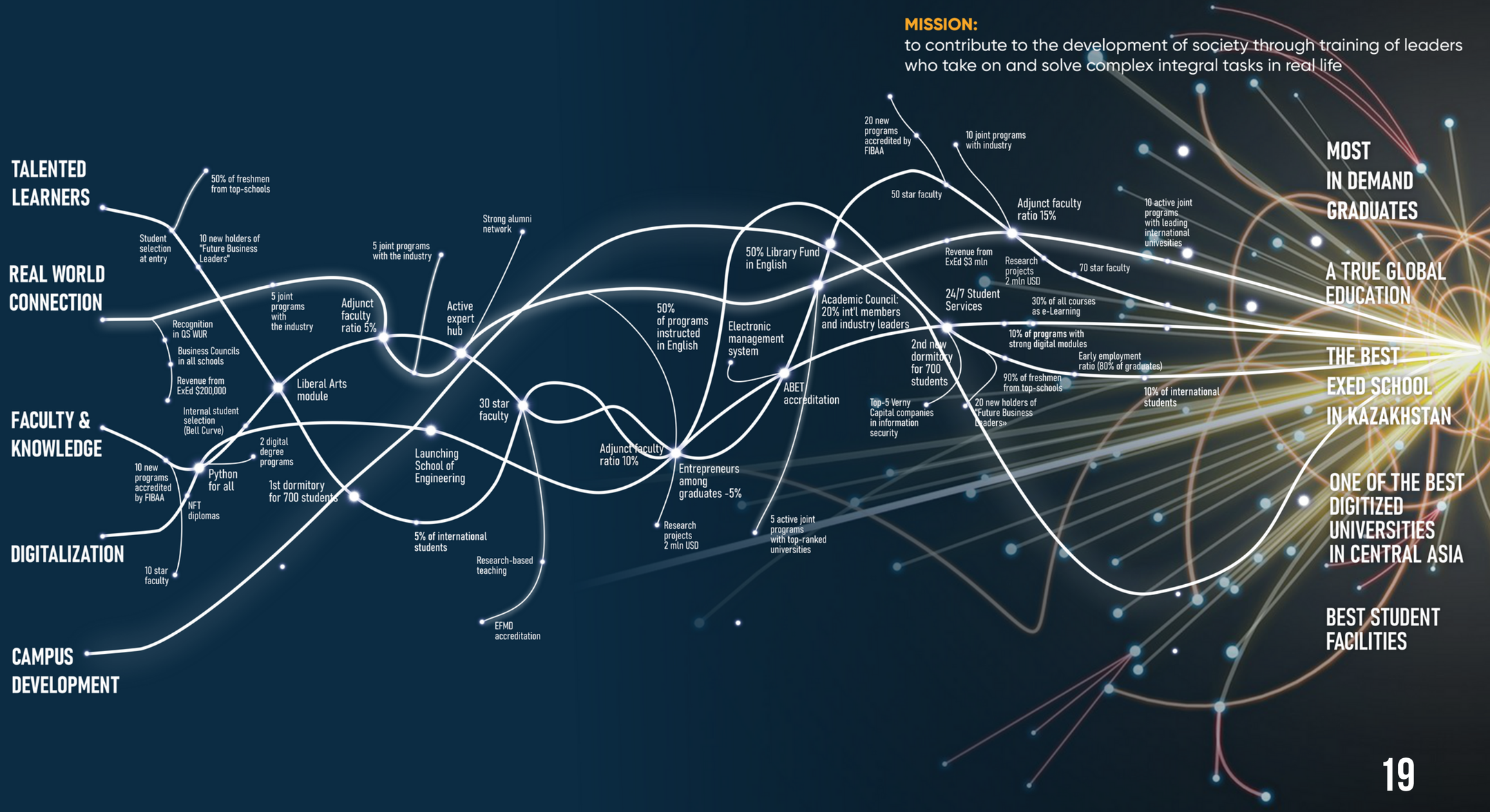
REFLECTIONS

- WE CAN'T STOP IT - WE CAN'T PUT THE RABBIT BACK IN THE HAT
- STATE IS SLOW TO REGULATE EFFECTIVELY
- CAN TECH FIRMS BE TRUSTED TO FIX A 'PROBLEM' THEY CREATED?
- IN EDUCATION, THERE NEEDS TO BE A PARTNERSHIP OF SHARED PURPOSE BETWEEN STAKEHOLDERS TO DEVELOP FLEXIBLE SOLUTIONS BASED ON A FOUNDATION OF INTEGRITY AND TRANSPARENT QUALITY

NARXOZ UNIVERSITY VISION - 2030

VISION:
to become an internationally-accredited university that provides multidisciplinary and globally-oriented education with strong ties to the industry for future real life leaders

MISSION:
to contribute to the development of society through training of leaders who take on and solve complex integral tasks in real life



VALUES

INTEGRITY

AS PART OF THE "GENETIC CODE" WITH ZERO TOLERANCE FOR ACADEMIC DISHONESTY

ACADEMIC FREEDOM

FREEDOM TO CHOOSE THE METHODS OF TEACHING AND RESEARCH FOR WHICH WE ARE RESPONSIBLE

RESPECT AND ETHICAL ATTITUDE

BASED ON INTOLERANCE OF ANY MANIFESTATIONS OF DISCRIMINATION

TRANSPARENCY AND INVOLVEMENT

OF EACH EMPLOYEE AND STUDENT IN ACHIEVING THE STRATEGIC PRIORITIES OF NARXOZ

NARXOZ UNIVERSITY EXPERIENCE

FORMAL REGULATIONS

CLAUSE 1.6 "PAPERS, IN WHOLE OR IN PART, PERFORMED WITH THE USE OF ARTIFICIAL INTELLIGENCE (CHAT GPT AND OTHER NEURAL NETWORKS) ARE ANNULLED."

- REGULATIONS FOR PLAGIARISM DETECTION AT NARXOZ UNIVERSITY (FROM MARCH 3,2023)

INSTRUMENTS

- TURNITIN CHATGPT DETECTOR
- DETECT-GPT BY STANFORD UNIVERSITY
- HAND-WRITTEN EXAMS WITH PROCTORING
- CHANGE OF ASSESSMENT TYPES AND POLICIES

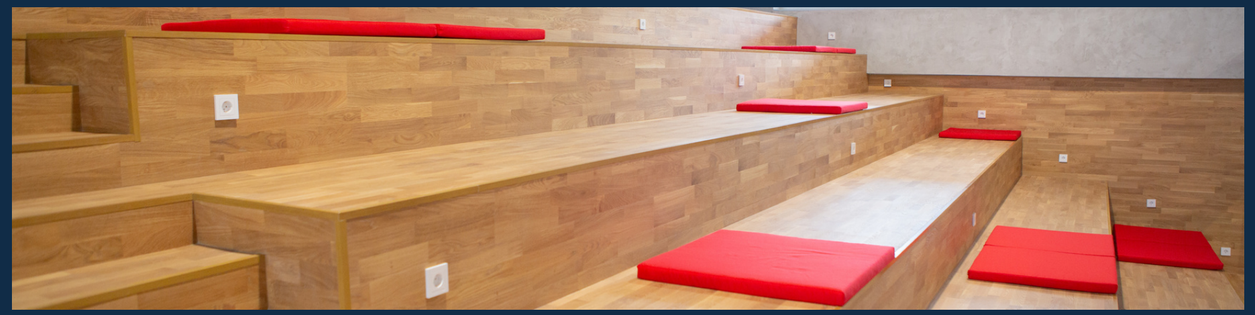
EMPOWERING PEOPLE TO MAKE CHANGES HAPPEN

- DIGITAL LITERACY (CODING FOR ALL, DATABASE MANAGEMENT, FORECASTING, GRAPHICS)
- HARD SKILLS (FINANCE, MANAGEMENT, COMMUNICATION, MARKETING, ANALYTICAL SKILLS)
- SOFT SKILLS (LEADERSHIP, ADAPTABILITY, CREATIVITY)
- CUSTOMIZATION (DUAL PROGRAMS, BLENDED EDUCATION, BBA / MBA FOR ALL)
- CONTINUED EDUCATION - "A LONG JOURNEY CONCEPT"

CAMPUS

RENOVATION IS COMPLETED IN 2022

- TOTAL AREA: 30,000 SQ.M.
- 112 CLASSROOMS: 2,320 SEATS
- 30 IT-LABS: 768 SEATS
- 115 FACULTY OPEN SPACES
- 24/7 LIBRARY



NARXOZ

COURT

Learning today - leading tomorrow