SSHOC and LINDAT/CLARIAH-CZ

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The SSHOC project

- SSHOC
  - Social Sciences and Humanities Open Cloud

SSHOC project

- Research Infrastructures involved
  - CESSDA (coordinator) – social sciences
    - Consortium of European Social Science Data Archives
  - ESS – European Social Surveys
  - SHARE – The Survey of Health, Ageing and Retirement in Europe ...
  - CLARIN – Language Resources (& technology)
  - DARIAH – Digital Humanities and Arts
  - E-RIHS – History
- Each RI participates also through many LTPs

SSHOC project

- Budget
  - 11.5M EUR
  - 40 months duration, 2019 – IV/2022
- Pillars of SSHOC

1. User-centric **Services**	WP 3,4,5,6
2. Tools for FAIR data management	WP 3,4
3. Access mechanisms	WP 5,6,7
4. Rules of participation and compliance for actors	WP 7
5. Architecture to federated e-infrastructures	WP 7
6. Federative yet efficient **Governance** structure	WP 8

LINDAT (CU) in SSHOC

- LINDAT (J. Hajič)
  - Research Infrastructure (MSMT CZ), part of Clarin
  - LINDAT/CLARIN: 2016-2019, P. Straňák, J. Mišutka
  - LINDAT/CLARIAH-CZ: 2019-2022, B. Vidová
    - Combines membership in EU CLARIN and DARIAH networks
    - 11 institutions in the Czech combined network
    - UK, MU, Academy of Sciences, National and Moravian Libraries, NG, NFA
  - http://lindat.cz (http://clariah.lindat.cz)
- SSHOC involvement
  - ESS: (automatic) translation of surveys
    - Min. 3 language pairs (English to and from Czech, Russian, German, French)
  - CLARIN: Task 3.3 – provide basic linguistic processing
    - UDPipe, 70+ languages – particular languages for SSHOC tbd

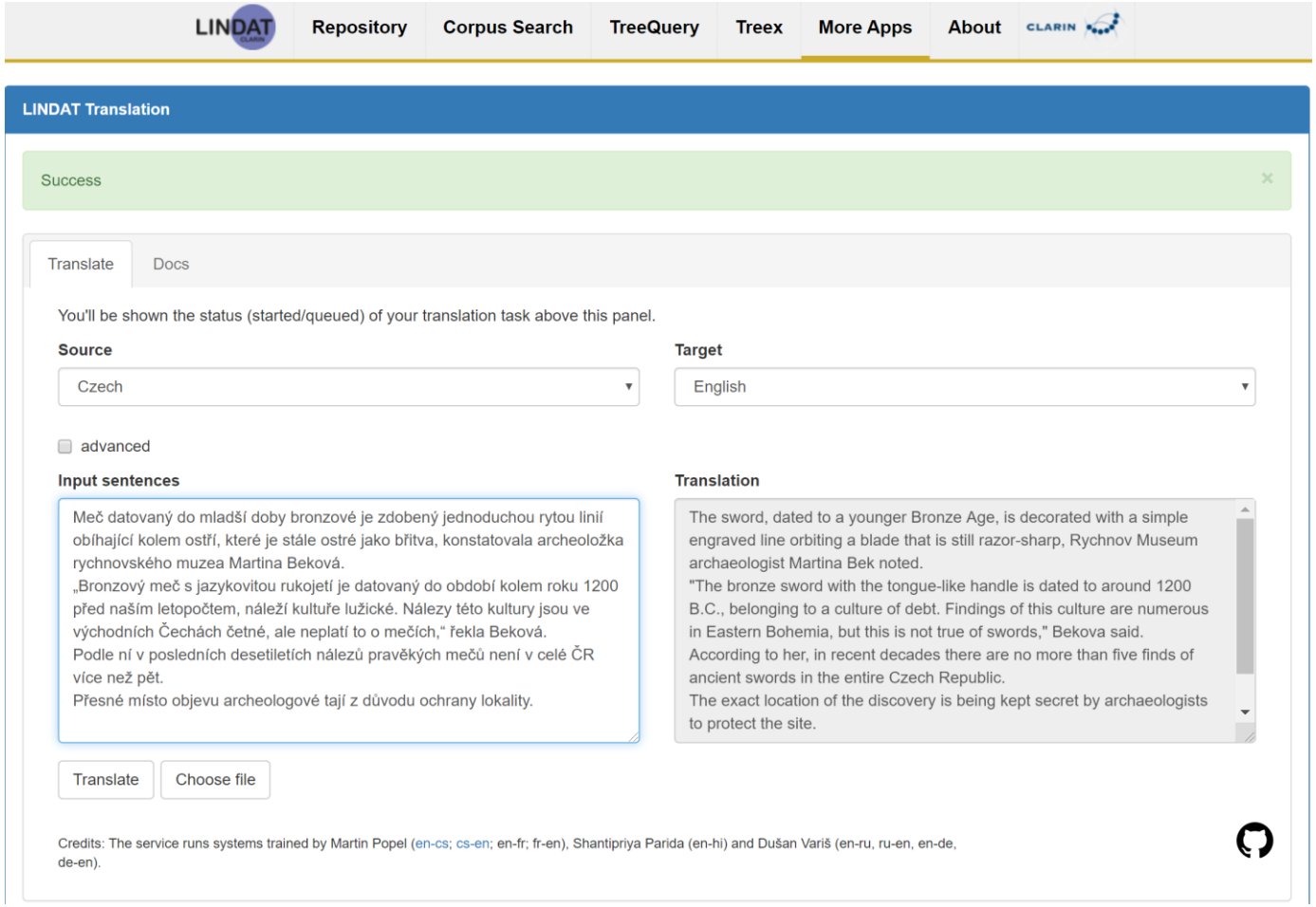
Text and Data Mining (CLARIN)

- WP3 – T3.3
  - Task leader: Maria Eskevich (CLARIN ERIC)
  - TDM for social sciences
  - 4 topics
    - CUNI in at least one of them
    - Use of basic linguistic analysis applies to all four topics
    - Topic 2 explicitly focuses on linguistic processing for TDM, into existing tools
  - Results:
    - Easy to use pipeline for languages in question
      - Based on UDPipe tool (Straka et al.)
      - Evaluated for „threshold“ (UDPipe: 70 languages, but not all up to the challenge, and some not of iterest)
- WP3 – T3.1 Multilingual terminology
  - Small CUNI involvement (ling. Tools)

Translation for ESS

- WP4 – T4.2
  - Main contact: Diana Zavala-Rojas (UPF)
  - Adapt SoA MT models for the domain of social surveys
    - Deep NN (Neural Machine Translation)
    - Transformer architecture (M. Popel et al., WMT 2018 and WMT 2019 winner for en-cs both ways)
  - People: Dušan Variš, Jakub Arnold (both PhD students)
  - Results:
    - Trained MT systems in three (actually, four) language pairs
    - Next:
      - Integration in social survey preparation/translation workflow
      - Best practices for use of MT in social surveys

Machine Translation



Relation to LINDAT (1)

- LINDAT will have to
  - Service the tools once deployed to the SSHOC portal / cloud
    - Perhaps through the European Language Grid?
      - http://europeanlanguagegrid.eu
  - Continue development of MT technology
    - To stay abreast with quality
    - To provide domain-specific translation models

Relation to LINDAT (2)

- LINDAT will have to
  - Continue to provide basic language analysis tools
    - UD languages – or at least the 24 EU languages
    - Business partner languages (BRIC etc.)
  - Service the linguistic analysis implementation
    - Domain specific tools?
  - Develop new tools
    - e.g., request for gender-specific job titles

Future needs

- LINDAT/CLARIAH-CZ (in SSHOC/EOSC)
  - Repository service for data (also for collecting data from SSH domains)
    - Part of basic LINDAT RI mission
      - But depends on volume, frequency etc.
  - Services
    - Permanent service needs staff – “legacy lock”
  - Hardware and space
    - Even if green computing-oriented, at least
      - 20-40M CZK for equipment every $ years
      - 1-2M CZK for power (energy)
      - 4-5M for IT support (HR)

LINDAT in SSHOC

Thank you!