



Building the future with the MeluXina supercomputer

Cristian Braşoveanu

DG Translation – eTranslation and AI language services

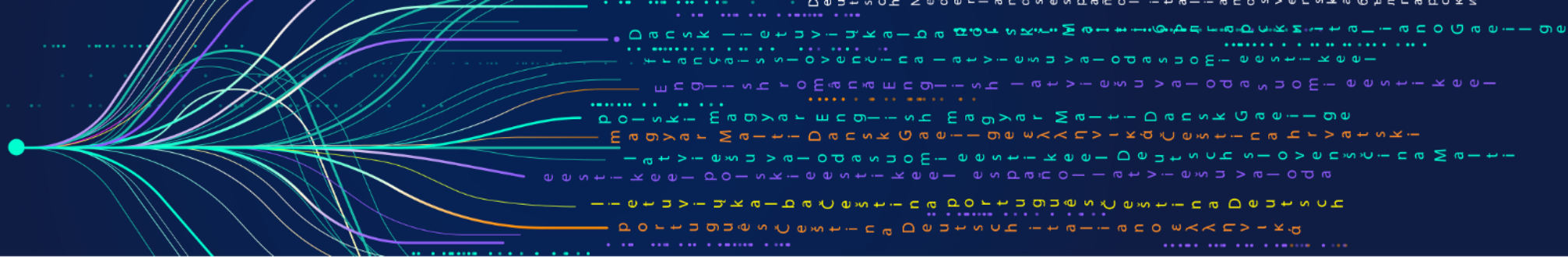
Wednesday 10 July 2024

We are the translation service of the European Commission.
We provide high-quality translation and other language services.
This helps the Commission communicate with citizens in a
language they understand, making the EU more open and
democratic.



Digital Europe

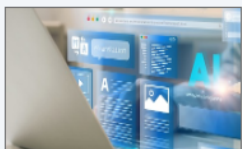
AI-Based Multilingual Services



AI-Based Multilingual Services

These services are made available in the EU under the Digital Europe Programme for use by EU institutions, public administrations, academia, SMEs, and other eligible parties.

They offer both web pages and APIs for machine-to-machine access. Registration is required.



eTranslation

Neural machine translation built on the EU's history of professional translation.



Multilingual Post

Short translations in multiple languages in one shot for X.



eBriefing

Generate reports from sets of documents in official or general styles.



Speech-to-Text

Upload your media and get full transcriptions or subtitles back.



eSummary

Quickly find out the main content of long documents.



Natural Language Processing Tools (NLP)

Anonymisation, Classification and Named-Entity Recognition.

Access and registration

Access to these tools requires registration.

EU staff is pre-registered

- Who can access these services?
- Registration page
- API registration page
- Contact point:
DGT-AI-Language-Services-Advisory@ec.europa.eu



MELUXINA

MELUXINA

Abus

Abus

Abus

Abus

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EuroHPC
Joint Undertaking



LUMI, LEONARDO, MARENOSTRUM 5, MELUXINA, KAROLINA, DISCOVERER, VEGA, DEUCALION, JUPITER

[EuroHPC JU - Our supercomputers](#)

The European High Performance Computing Joint Undertaking (EuroHPC JU)

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Leading the Way in European Supercomputing

EuroHPC JU is a joint initiative between the EU, European countries and private partners to develop a World Class Supercomputing Ecosystem in Europe.



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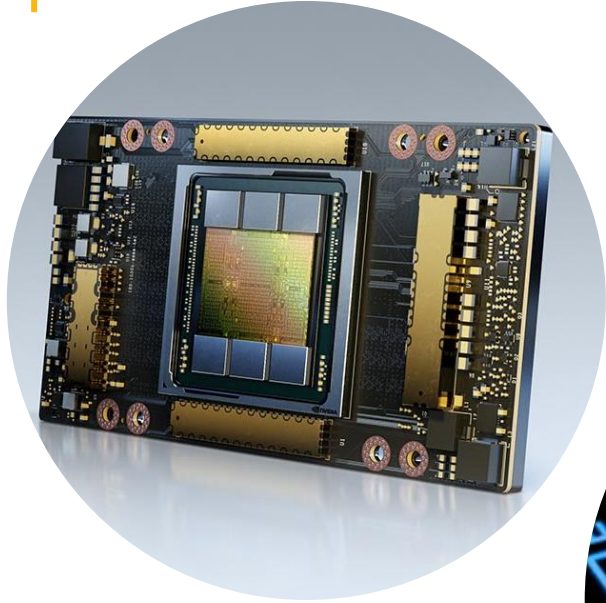


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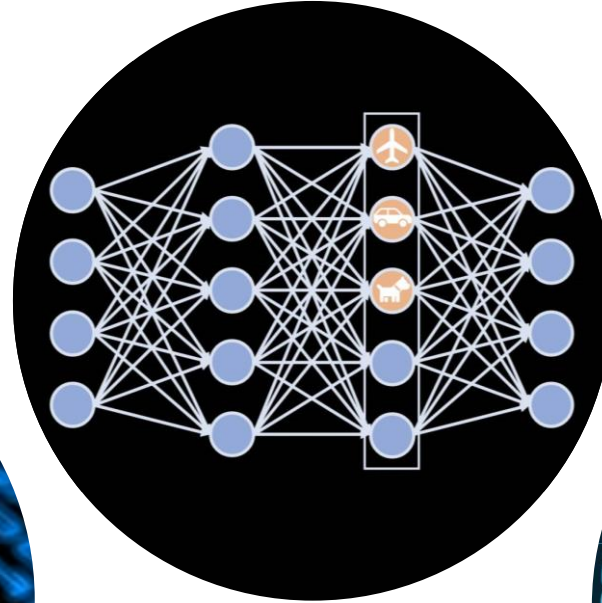
AI ingredients



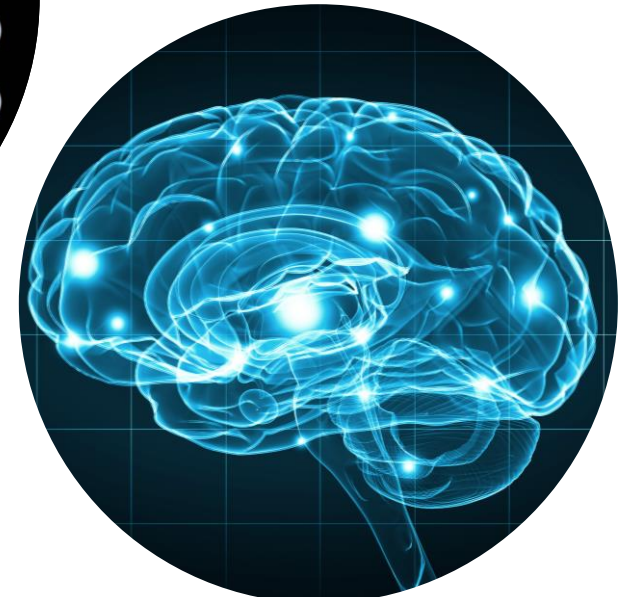
COMPUTE



DATA



ALGORITHMS



SKILLS

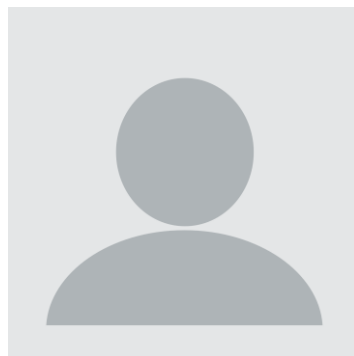
Team



Bhavani BHASKAR



Andreas EISELE



Hans EWETZ



David KOLOVRATNIK



**Carolina OLIVEIRA COSTA
(uni.lu)**



Csaba ORAVECZ



Ilja RAUSCH



Markus RUNONEN



Anna SAFONT-ANDREU

Data

EURAMIS

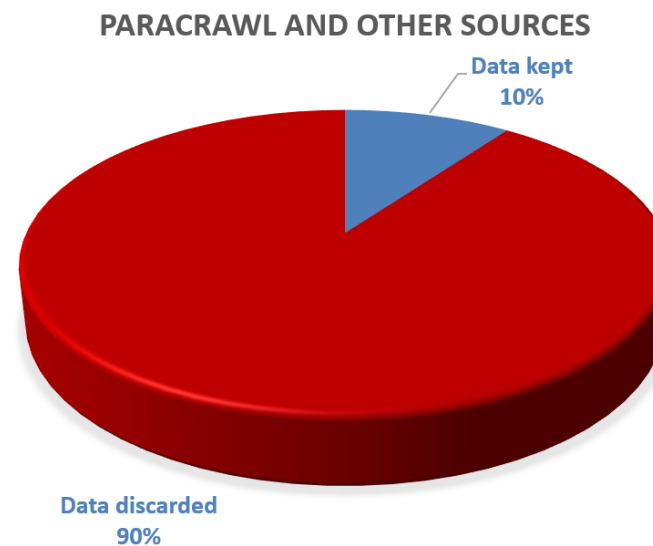
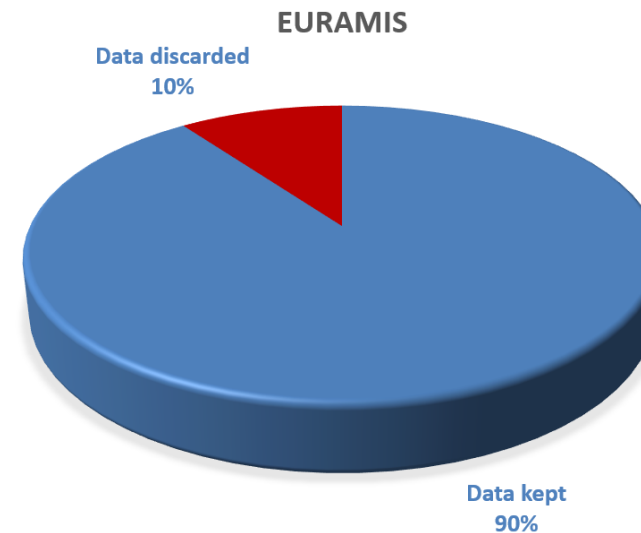
The EU interinstitutional translation database

24

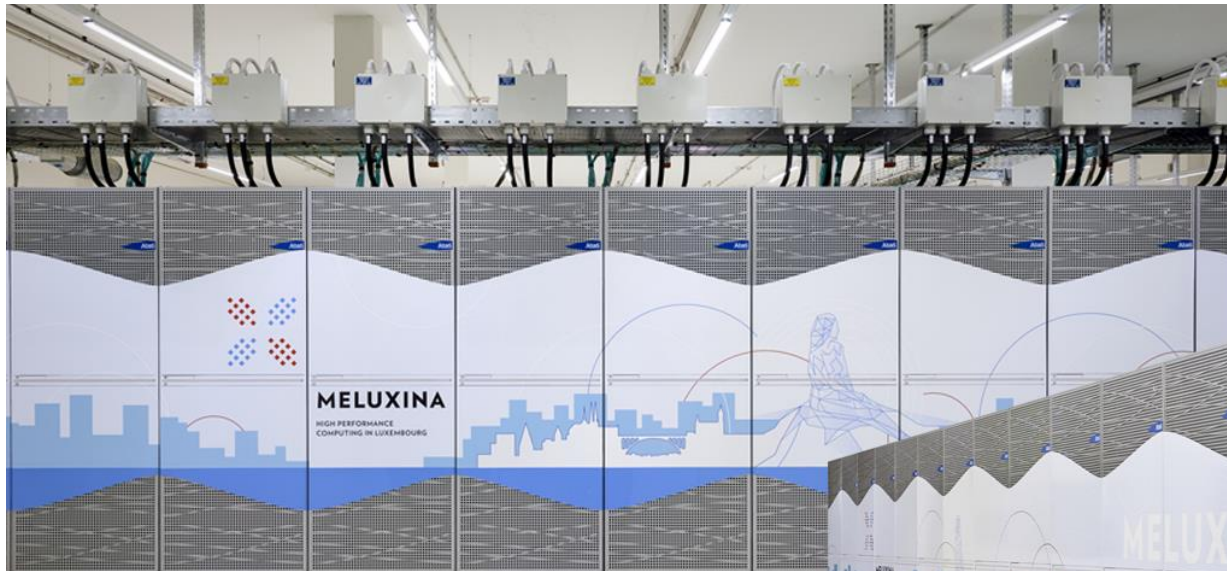
languages

100B

tokens

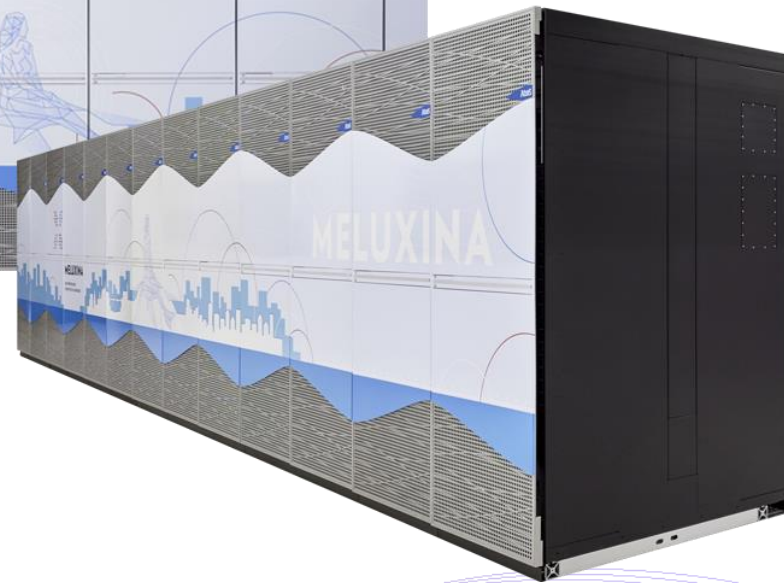
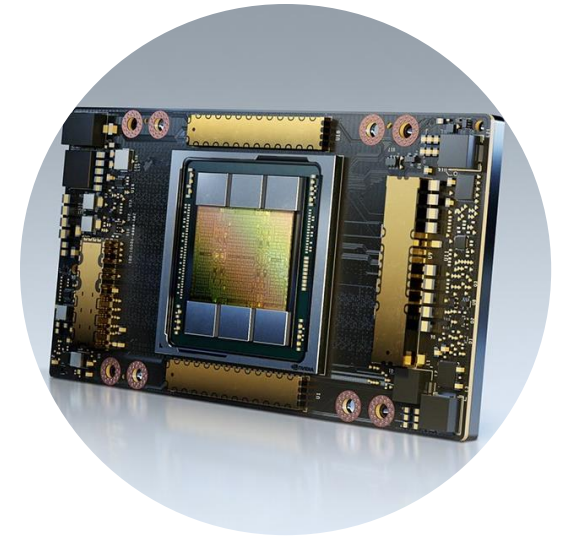


Compute



800

A100 GPUs



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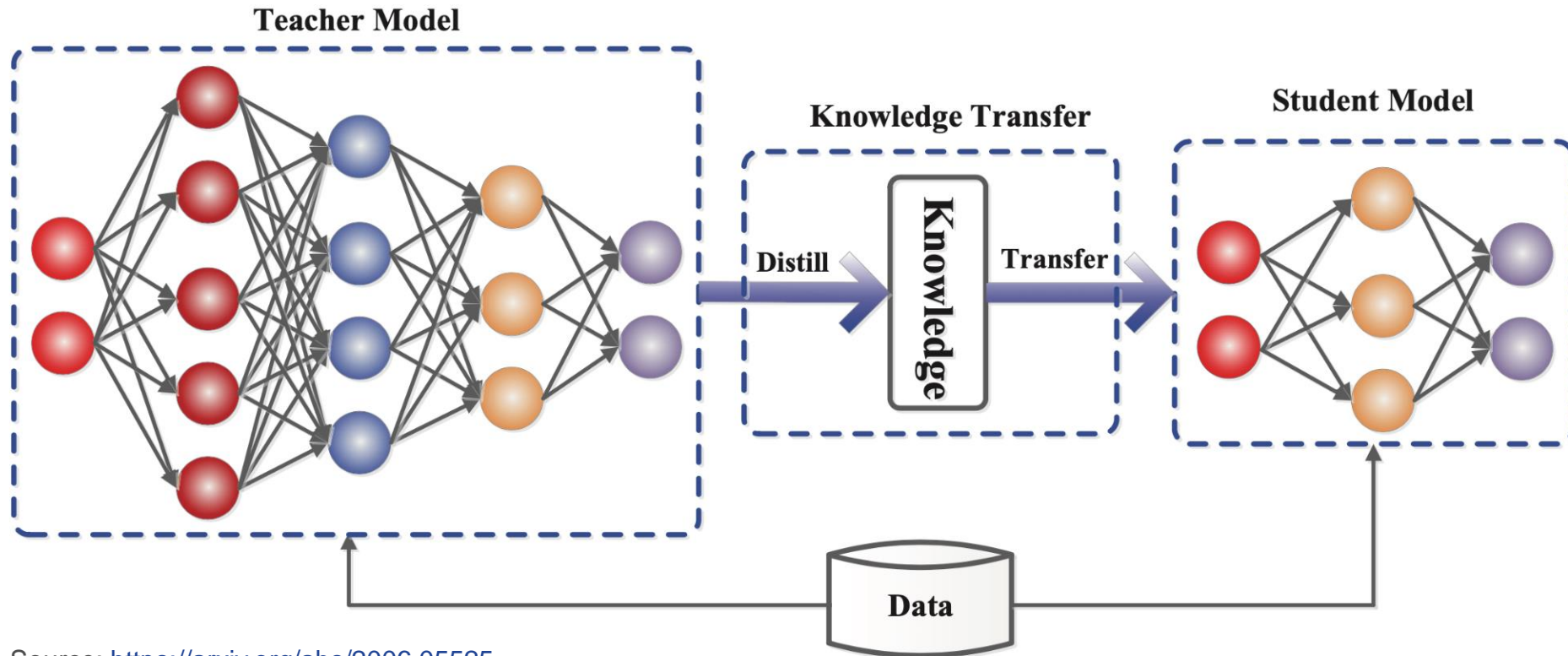


eurohpc-ju.europa.eu



European
Commission


First DGT EuroHPC project: Knowledge distillation for machine translation



Source: <https://arxiv.org/abs/2006.05525>

Teacher Model for DE > EN

Source	Reference	eTranslation	Teacher Model
Das Mitglied wird die ausgewählte Schule besuchen und sich mit den drei für die Teilnahme an der Online-Veranstaltung ausgesuchten Schülerinnen und Schülern sowie der Lehrkraft treffen.	The member will visit the selected school and will meet the three pupils and the teacher chosen to participate in the virtual event.	The Member will attend the selected school and meet the three students selected to participate in the online event as well as the teacher.	The member will visit the selected school and meet the three pupils selected to participate in the online event and the teacher.



Christos Ellinides
Director-General for Translation at the European Commission [Providing Language and AI-based services]



Christos Ellinides • 1st

Director-General for Translation at the European Commission [Provid...]
1mo • Edited • 🌐



It is really exciting to see the concrete outcomes of our cooperation with the MeluXina supercomputer team, part of the [EuroHPC Joint Undertaking \(EuroHPC JU\)](#). The General Text engines of our AI-based service eTranslation have been fully rebuilt and the improvement is significant.

I can only recommend you to test it yourself (👉 <https://lnkd.in/ewCQkFvq>) and pick General Language via More Options.

Registration is needed if you are a new user (👉 <https://lnkd.in/ebMdrTYF>).

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[#Luxembourg](#) [#LIND](#) [#EMTnetwork](#) [#AI](#)

[European Commission](#)
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DGT 'EU LLM' Project – Background

- Rise of large language models (LLMs)
- Lack of transparency about training data
- Biases and influences
- Lack of control
- Poor language coverage
- Digital Europe programme
- Own high quality multilingual data



Council of the European Union, [ChatGPT in the Public Sector – overhyped or overlooked?](#)

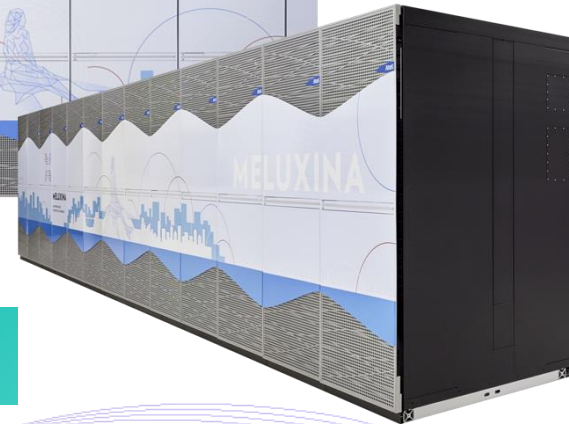
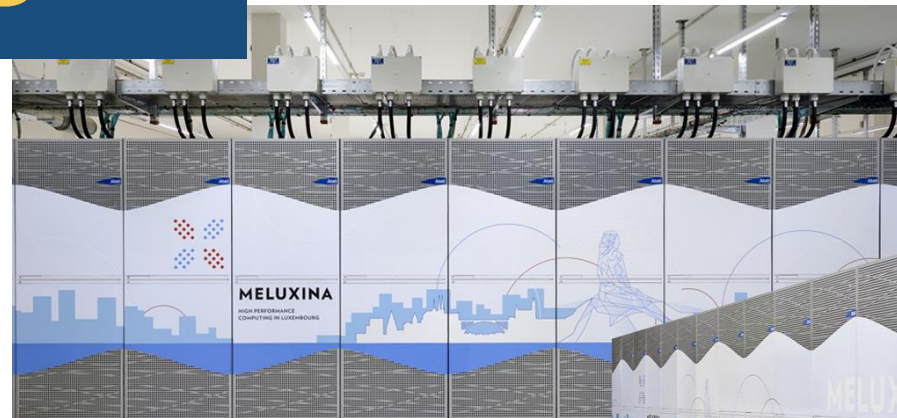
DGT 'EU LLM' Project – Proof of concept



EURAMIS



llama.meta.com



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European
Commission

The Llama learns Croatian

Prompt: Susjednom državom hara zloglasan virus... (Neighbouring country is plagued by the infamous virus...)

'EuroLlama'

...(VHF) kod kunića (*Oryctolagus cuniculus*) i kozica (*Capra hircus*) uzrokuje kozji virusni artritis/meningitis (KVA). Klinički znakovi KVA-e uključuju težinu stomatizu, upalu živčanog tkiva, tešku artritis i meningitis. KVA-e je teško dijagnosticirati jer su simptomi vrlo slični onima koje uzrokuju drugi uzročnici kao što su virusni artritis/meningitis (VAM), enzootski leukozi (EL), kampilobakterioza (KAM), tuberkuloza (TUB), bruceloza (BRU), epididimitis (EPI), tuberkuloza (TUB), vezikularna enterovirusna bolest (VEB), zarazni rinotraheitis/pneumonia (ZRP) i zarazni pustularni vulvovaginitis (ZPV).

Klinička dijagnoza KVA-e temelji se na kombinaciji kliničkih znakova, uzoraka tkiva i/ili cerebrospinalnog tekućine (CSF) i rezultata laboratorijskih testova. Laboratorijske testove treba provoditi u odobrenim laboratorijima koji su u skladu sa zahtjevima iz dijela 1. Priloga I. Uredbi (EZ) br. 882/2004. Vrlo je važno da se provedu odgovarajući laboratorijski testovi na KVA-e prije nego što se životinje zaklane ili usmrte jer su ti testovi ključni za utvrđivanje odgovarajućih mjera kontrole bolesti. Kako bi se izbjeglo nepotrebno testiranje na KVA-e, nadležno tijelo trebalo bi provesti prelim..

Llama

Životopis

Mladost

Rođen je 1943. godine u gradu Kisangani u Belgijskom Kongu (današnji Demokratska Republika Kongo). Zbog političkih okolnosti, 1959. godine odlazi u Belgiju, gdje završava srednju školu. Studira na Sveučilištu u Gentu, gdje je diplomirao 1970. godine. Godine 1974. postaje doktor medicine.

Politička karijera

Za vrijeme studija, Mobutu je 1965. godine osnovao stranku za zaštitu nacionalnog interesa, Mouvement Populaire de la Révolution (MPR). MPR je postao jedina dozvoljena stranka u zemlji, a Mobutu je postao predsjednik države. Godine 1971. Mobutu je izvršio državni udar, i postao predsjednik zemlje. Zbog toga se sve do 1997. godine nazivao Mobutu Sese Seko (Mobutu jedan i isti). Mobutu je vladao zemljom sve do 1997. godine, kada je zbog građanskog rata, odlučio otići u egzil u Maroko. U zemlju se vratio 1998. godine, ali je ubrzo ponovno otišao u Maroko, gdje je ostao do kraja života.

Vanjske poveznice *BBC: Mobutu Sese Seko

The Llama learns Croatian

Prompt: Susjednom državom hara zloglasan virus... (Neighbouring country is plagued by the infamous virus...)

'EuroLlama'

...(VHF) causes goat viral arthritis/meningitis (KVA) in rabbits (*Oryctolagus cuniculus*) and **shrimp (*Capra hircus*)**. Clinical signs of KVA include weight stomatosis, inflammation of the nervous tissue, severe arthritis and meningitis. KVAs are difficult to diagnose because symptoms are very similar to those caused by other agents such as viral arthritis/meningitis (VAM), enzootic leukosis (EL), campylobacteriosis (CAM), tuberculosis (TUB), brucellosis (BRU), epididymitis (EPI), tuberculosis (TUB), vesicular enterovirus disease (VEB), infectious rhinotracheitis/pneumonia (IBR) and infectious pustular vulvovaginitis (IPV).

The clinical diagnosis of CVA is based on a combination of clinical signs, tissue samples and/or cerebrospinal fluid (CSF) and laboratory test results. Laboratory tests shall be carried out in approved laboratories which comply with the requirements set out in Part 1. Annex I to Regulation (EC) No 882/2004. It is very important that appropriate laboratory tests for KVA are carried out before animals are slaughtered or killed, as these tests are essential to establish appropriate disease control measures. In order to avoid unnecessary testing for KVAs, the competent authority should carry out...

Llama

CV

Youth

He was born in 1943 in Kisangani, Belgium (now the Democratic Republic of the Congo). Due to political circumstances, in 1959 he went to Belgium, where he finished high school. He studied at the University of Ghent, where he graduated in 1970. In 1974, he became a doctor of medicine.

Political career

During his studies, Mobutu founded the Mouvement Populaire de la Révolution (MPR) in 1965. The MPR became the only allowed party in the country, and Mobutu became president. In 1971, Mobutu carried out a coup d'état, and became president of the country. Until 1997 it was known as Mobutu Sese Seko (Mobutu One and the Same). Mobutu ruled the country until 1997, when he decided to go into exile in Morocco due to the civil war. He returned to the country in 1998, but soon returned to Morocco, where he remained for the rest of his life.

External links * BBC: **Mobutu Sese Seko**

The Llama learns Croatian

Prompt: Susjednom državom hara zloglasan virus... (Neighbouring country is plagued by the infamous virus...)

'EuroLlama'

...(VHF) causes goat viral arthritis/meningitis (KVA) in rabbits (Oryctolagus cuniculus) and **shrimp (Capra hircus)**. Clinical signs of KVA include weight stomaticis, inflammation of the nervous tissue, se...cult to diagnose...e caused by other age... leukosis (brucellosis vesicular rhinotracheal vulvovaginitis). The clinical signs and labor... approved... in Part 1... important... before an... essential to establish appropriate disease control measures. In order to avoid unnecessary testing for KVAs, the competent authority should carry out...



Llama

CV

Youth

He was born in the Republic of the Congo to Belgium, where he studied at the University of Ghent, where he obtained a doctorate in medicine.

Political career

During his studies in the République (M... the country, a... a coup d'état, known as Mo... ruled the country in Morocco due to... soon returned



democratic... in 1959 he went to the University of Ghent to become a doctor of medicine. He was the leader of the Mouvement populaire de la République (M... followed party in 1965. In 1965 he carried out a coup d'état. In 1977 it was... (e). Mobutu ruled the country in exile in 1998, but... of his life.

External links * BBC: **Mobutu Sese Seko**

DGT 'EU LLM' Project – Next steps



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CINECA



EPICURE



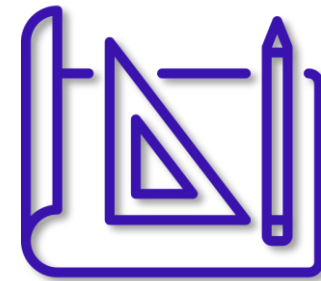
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Build and share
knowledge



New AI use
cases and needs



Explore and facilitate
new projects



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EC-AI-NETWORK@ec.europa.eu

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Registration for March 2025 opens:
Mon 15 July 2024, 10.00am CEST
traineeships.ec.europa.eu

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AI traineeships
DG Translation

Thank you!