# CLARIN-LV Infrastructure for Research and Education

Inguna Skadiņa

National coordinator of CLARIN-LV

02.06.2021.







## CLARIN - Common Language Resources and Technology Infrastructure

CLARIN is a research infrastructure that was initiated from the vision that

all digital language resources and tools from all over Europe and beyond

are accessible through a single sign-on online environment for the support of researchers in the **humanities and social** sciences.

## **CLARIN-LV**





Par CLARIN

Repozitorijs

Konferences un semināri

Latviešu valodas resursi

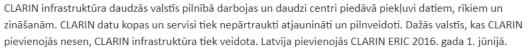
Jaunumi

Kontakti

#### Par CLARIN

CLARIN (Common Language Resources and Technology Infrastructure – Vienota valodas resursu un tehnologiju infrastruktūra) ir dalīta Eiropas pētniecības infrastruktūra (ERIC), kas integrē darbu, zināšanas, resursus, rīkus, repozitorijus un servisus, ko piedāvā daudzie CLARIN centri un nacionālie konsorciji.

CLARIN mērķis ir novērst sadrumstalotību valodas resursu jomā un padarīt valodas resursus pieejamus visu jomu, it īpaši humanitāro un sociālo zinātņu zinātniekiem un studentiem, izmantojot vienotu pierakstīšanos. CLARIN piedāvā ilgtermiņa risinājumus un tehnoloģiju servisus digitālo valodas datu un rīku izvietošanai, savienošanai, analīzei un atbalstīšanai. CLARIN atbalsta pētniekus, kas vēlas iesaistīties vadošos datos balstītos pētījumos, lai veicinātu patiesi daudzvalodīgu Eiropas pētniecības telpu.









Registrācija konferencei "Latviešu

Aicinām piedalīties konferencē "Latviešu valodas digitālie resursi un rīki izglītībai", kas notiks **2021. gada 2. jūnijā plkst. 10.30-15.00** *Zoom* platformā. Konferencei iespējams reģistrēties šeit.







EIROPAS SAVIENĪBA Eiropas Reģionālās attīstības fonds

CLARIN Latvija nacionālā mezglu punkta izveidi atbalsta Eiropas Reģionās attīstības fonda projekts "Latvijas Universitāte un institūti Eiropas pētniecības telpā - ekselence, aktivitāte, mobilitāte, kapacitāte" (Nr. 1.1.1.5/18/I/016)

IEGULDĪJUMS TAVĀ NĀKOTNĒ

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www.clarin.lv info@clarin.lv

## **CLARIN-LV** repository



Repository

Corpus Search





## Deposit Free and Safe License of your Choice (Open licenses encouraged)

Easy to Find

Easy to Cite



#### **Advanced Search**

Α	uthor
	Grūzītis, Normunds (7)
	Levāne-Petrova, Kristīne (7)
	Darģis, Roberts (6)
	Auziņa, Ilze (5)
	Saulīte, Baiba (5)
	View More

Subjec	:t
cor	pus (2)
orth	nographic transcr(2)
spe	ech corpus (2)
Abs	stract Meaning Rep(1)
AM	R (1)
V	iew More

L	anguage (ISO)
	Latvian (16)
	German (2)
	English (1)
	Latgalian (1)
	Lithuanian (1)

Search

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repository.clarin.lv 6

#### What's New

ToolService

**CLARIN Centre Of Latvian Language Resources And Tools** 

#### LVBERT - Latvian BERT



Znotiņš, Artūrs

#### Description:

LVBERT is the first publicly available monolingual BERT language model pre-trained for Latvian. For training we used the original implementation of BERT on TensorFlow with the whole-word masking and the next sentence ...

<sup>
§</sup> This item contains 2 files (1.51 GB).

**Publicly Available** 

#### Corpus

**CLARIN Centre Of Latvian Language Resources And Tools** 

#### Latvian Learner Corpus (LaVa)

#### Author(s):

Auzina, Ilze; Kaija, Inga; Levāne-Petrova, Kristīne; Pokratniece, Kristīne; Darģis, Roberts

#### Description:

The corpus includes almost 1000 texts created by foreign students studying at a Latvian higher education institution who are learning Latvian as a foreign language in the first or second semester. The morphologically ...

**♦** This item contains no files.

#### Corpus

**CLARIN Centre Of Latvian Language Resources And Tools** 

#### Rainis

#### Author(s):

Spektors, Andrejs ; Grūzītis, Normunds ; Darģis, Roberts ; Auziņa, Ilze ; Saulīte, Baiba ; Levāne-Petrova, Kristīne

#### Description:

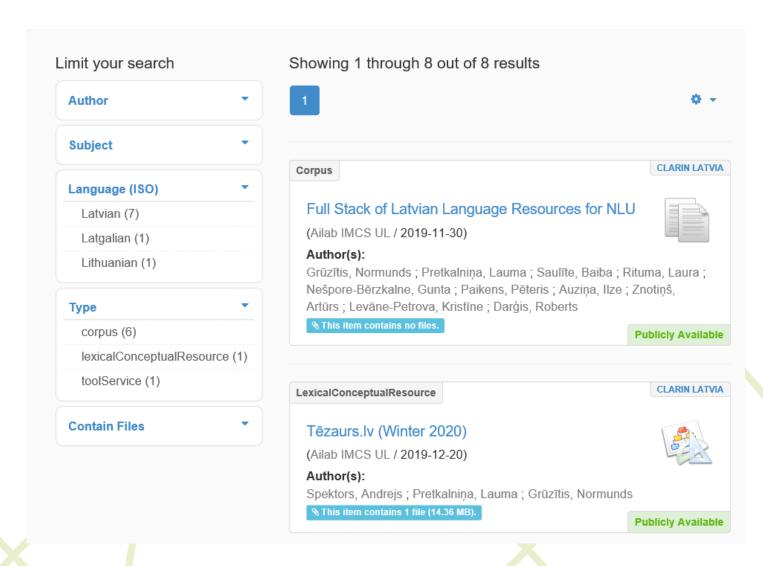
This specialised text corpus contains all of Rainis work: plays, poetry, prose, journalism, translations, letters, etc.

**♦ This item contains 2 files (56.83 MB).** 



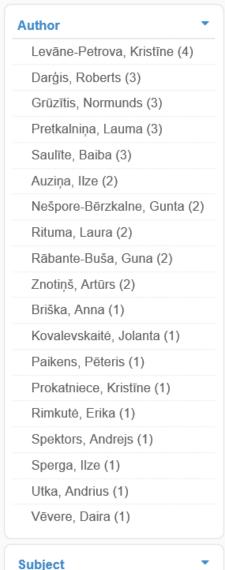
**Publicly Available** 

## Advanced Search



## Advanced Search

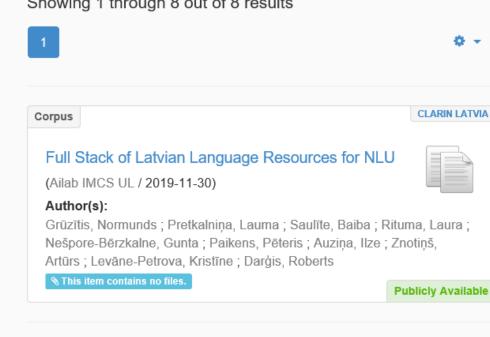
#### Limit your search

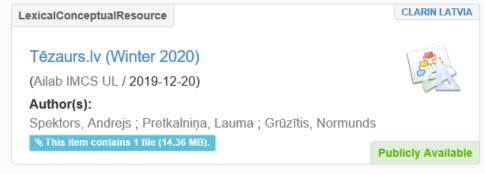


Language (ISO)

Latvian (7)

#### Showing 1 through 8 out of 8 results





**CLARIN LATVIA** 



Author(s): Znotiņš, Artūrs

ToolService

## Citation

CLARIN-LV Repository Home / View Item

#### Rainis



Please use the following text to cite this item or export to a predefined format:





Spektors, Andrejs; Grūzītis, Normunds; Darģis, Roberts; et al., 2018, Rainis, CLARIN-LV digital library at IMCS, University of Latvia, http://hdl.handle.net/20.500.12574/41.









**CLARIN Centre Of Latvian Language Resources And Tools** 

## Usage scenario: Corpus search

Repository

Corpus Search

About





Query Corpora Save Concordance Filter Frequency Collocations View Help

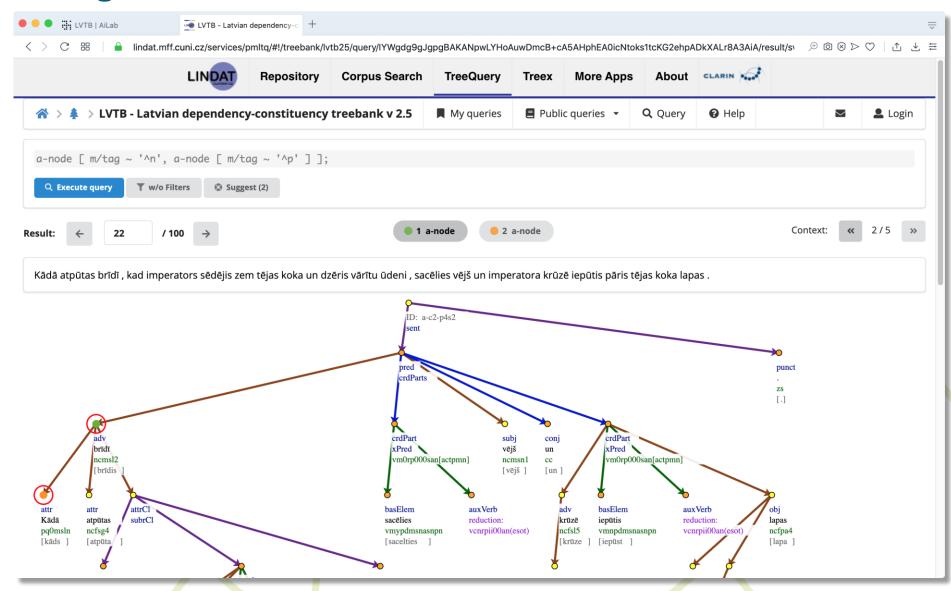
Corpus: LVK2018 (beta) | Query: stāvēt, pie (6 hits)

Hits: 6	i.p.m.: <b>0.49</b> (rela	ted to the whole corpus)   ARF: 3.97   Result is sorted
Line sele	ection: simple ~	
	doc#101	pārāk ilgas pēdējās aizkavēšanās ruma mucas tuvumā Puspīrāgam atkal iznāca stāvēt pie stūres . Pūta spirgts dienvidrietenis , un « Speķa Lode
	doc#15350	lati diennaktī , jo ir jāēd . " Es nevaru <b>stāvēt pie</b> operāciju galda , stundām skatoties dažu centimetru laukumā , un
	doc#15802	, pārcilāt it visas lietas istabā , atvērt logu un stāvēt pie tā , līdz sirds piesalst pie ribām un pārstāj pukstēt
	doc#19048	gadiem darīja Hilarija Klintone . Jau viņai toreiz pārmeta nevēlēšanos stāvēt pie plīts . Mišele Obama tagad mierīgi atzīst , ka neprot
	doc#19107	smagi strādāt , lai nopelnītu iztiku , uzkopt telpas , stāvēt pie plīts . Psihologi izpētījuši , ka tikai 30 % cilvēku
	doc#20485	smaržo gatavais pamatēdiens . Vai leģendārajai multiplikatorei vienmēr atlicis laika stāvēt pie katliem ? " Atzīšos , apmēram divdesmit savus dzīves gadus
		1 //1

LVK2018 (beta)	12M	Details
morphocorpus	220k	Details
MuLa	1M	Details
Rainis	2M	Details
Saeima	22M	Details
Vidusskolēnu pārspriedumi	226k	Details

CLARIN 1<sup>r</sup>

## Usage scenarios: access to another CLARIN node



## Language resources from another CLARIN node

Corpus

CLARIN.SI Data & Tools

#### Multilingual comparable corpora of parliamentary debates ParlaMint 2.0



(CLARIN ERIC / 2021-05-10)

#### Author(s):

Erjavec, Tomaž; Ogrodniczuk, Maciej; Osenova, Petya; Ljubešić, Nikola; Simov, Kiril; Grigorova, Vladislava; Rudolf, Michał; Pančur, Andrej; Kopp, Matyáš ; Barkarson, Starkaður ; Steingrímsson, Steinbór ; van der Pol, Henk; Depoorter, Griet; de Does, Jesse; Jongejan, Bart; Haltrup Hansen, Dorte : Navarretta, Costanza : Calzada Pérez, María : de Macedo, Luciana D.; van Heusden, Ruben; Marx, Maarten; Cöltekin, Cağrı; Coole, Matthew; Agnoloni, Tommaso; Frontini, Francesca; Montemagni, Simonetta: Quochi, Valeria: Venturi, Giulia: Ruisi, Manuela: Marchetti, Carlo ; Battistoni, Roberto ; Sebők, Miklós ; Ring, Orsolya ; Darģis, Roberts ; Utka, Andrius ; Petkevičius, Mindaugas ; Briedienė, Monika ; Krilavičius, Tomas ; Morkevičius, Vaidas

**%** This item contains 17 files (2.03 GB).

Publicly Available @ (1) (2)



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## ParlaMint-LV





Query Corpora Save Concordance Filter Frequency Collocations View Help

Corpus: ParlaMint-LV 2.0 (Latvian parliament) | Query: valoda (4,527 hits)

Hits: <b>4,5</b>	527   i.p.m. <sup>6</sup> : 545.74 (related to the whole "parlamin"	t20_lv")   ARF		1 / 114
Line se	election: simple V   Display options			
	TretjakaZenta,2016-06-16	solu būt uzticīgs Latvijai, stiprināt tās suverenitāti un latviešu	valodu	kā vienīgo valsts valodu, aizstāvēt Latviju kā neatkarīgu un
	TretjakaZenta,2016-06-16	, stiprināt tās suverenitāti un latviešu valodu kā vienīgo valsts	valodu	, aizstāvēt Latviju kā neatkarīgu un demokrātisku valsti, savus
	BalodisRingolds,2017-02-02	latviski runājot, jeb bestselleru, kā to sauc angļu	valodā	. Tātad kādā provinces ciematiņā, piejūras ciematiņā meklē šerifu
	VijumsJuris,2017-02-02	tāpēc es atvainojos tiem, kas seko manai latviešu	valodas	pareizībai, - nevis " mēdiji", bet "
	KrauzeArmands,2016-12-01	, ko es esmu iesniedzis, ir paredzēts, ka	valoda	ir ļoti nozīmīgs instruments, jo lauksaimniecība ir augsta riska
	KrauzeArmands,2016-12-01	instruments, jo lauksaimniecība ir augsta riska nozare, kur	valodas	zināšanas ir nepieciešamas kaut vai tādēļ, lai strādātu ar
	KrauzeArmands,2016-12-01	apritē un pārzinātu mūsu noteikumus. Un vēl jo vairāk	valodas	zināšanas lauksaimniecībā ir nepieciešamas saistībā ar darba drošību. Mēs
	KrauzeArmands,2016-12-01	darba drošības noteikumi ir pārkāpti, jo īpašnieki nepārzina latviešu	valodu	un nevar iepazīties ar noteikumiem. Tādēļ es, balstoties
	KrauzeArmands,2016-12-01	saimniecībās paši arī uz vietas darbojas, ir jāzina latviešu	valoda	attiecīgā līmenī. Paldies. ¶ [Sēdes vadītāja.] Vārds deputātam Ingmāram Līdakam
	SmiltensEdvards,2016-12-01	dažāda veida ierobežojumi, to skaitā arī šis - par	valodu	. Šādu priekšlikumu mēs esam skatījuši jau pirms vairākiem gadiem
	SmiltensEdvards,2016-12-01	, un rūpīgi jāizvērtē tādi apgrūtinājumi kā, piemēram,	valoda	- vai tie līdzēs. Es aicinu balsot par šo
	DombravaJānis,2016-12-01	kungs - , ka viens no ierobežojumiem varētu būt valsts	valodas	prasmes prasības tām personām, kuras vēlas iegādāties lauksaimniecības zemi
	DombravaJānis,2016-12-01	ka valsts zeme var piederēt tiem, kuri spēj valsts	valodā	pamatot zemes turpmāko izmantošanu. ¶ [Sēdes vadītāja.] Vārds deputātam Edgaram Putram
	PutraEdgars,2016-12-01	taču neminēja to, ka Francijā šāda prasība par valsts	valodas	par prezentēšanu komisijā - kā tad to zemi izmantos
_				

#### Linguistically annotated multilingual comparable corpora of parliamentary debates ParlaMint.ana 2.0





BIBTEX CMDI

Erjavec, Tomaž; et al., 2021, Linguistically annotated multilingual comparable corpora of parliamentary debates ParlaMint.ana 2.0, Slovenian language resource repository CLARIN.SI, http://hdl.handle.net/11356/1405.





This resource is also integrated in following services:







noSketch

**CLARIN.SI Data & Tools** 

Authors

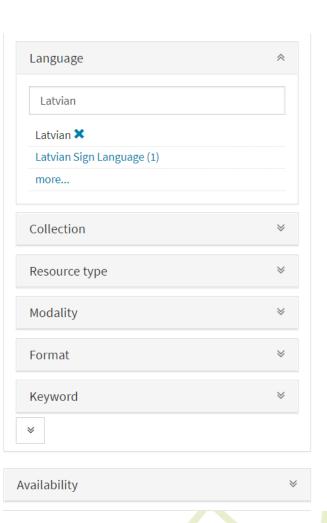
Erjavec, Tomaž; Ogrodniczuk, Maciej; Osenova, Petya; Ljubešić, Nikola; Simov, Kiril; Grigorova, Vladislava ; Rudolf, Michał ; Pančur, Andrej ; Kopp, Matyáš ; Barkarson, Starkaður ; Steingrímsson, Steinbór; van der Pol, Henk; Depoorter, Griet; de Does, Jesse; Jongejan, Bart; Haltrup Hansen, Dorte : Navarretta, Costanza : Calzada Pérez, María : de Macedo, Luciana D. : van Heusden, Ruben ; Marx, Maarten ; Çöltekin, Çağrı ; Coole, Matthew ; Agnoloni, Tommaso ; Frontini, Francesca ; Montemagni, Simonetta; Quochi, Valeria; Venturi, Giulia; Ruisi, Manuela; Marchetti, Carlo; Battistoni, Roberto; Sebők, Miklós; Ring, Orsolya; Darģis, Roberts; Utka, Andrius; Petkevičius, Mindaugas ; Briedienė, Monika ; Krilavičius, Tomas ; Morkevičius, Vaidas ; Bartolini, Roberto ; Cimino, Andrea

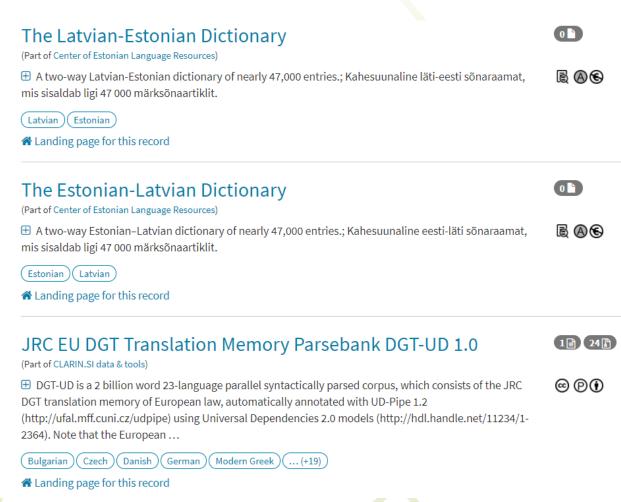
# Toolchain for Latvian Language Processing: NLP-PIPE

Ādams Panks vēl aizvien mitinās koka dobumā Vērmanes dārzā. NER OCONLL JSON Go tokenizer × morpho × parser × ner × INDEX FORM LEMMA UPOSTAG **XPOSTAG FEATS** HEAD DEPREL #text=Ādams Panks vēl aizvien mitinās koka dobumā Vērmanes dārzā. Ādams Ādams PROPN Case=NomlGel 5 nsubj 1 npmsn1 2 Panks Panks NOUN ncmsn1 Case=NomlGe 1 flat:name 3 vēl vēl ADV r0 5 advmod 4 aizvien aizvien ADV r0 5 advmod mitinās mitināties **VERB** Evident=FhIMo 0 5 vmyip 330an root 6 koka koks NOUN ncmsg1 Case=GenlGer 7 nmod 7 NOUN dobumā dobums ncmsl1 Case=LoclGen 5 obl 8 Vērmanes Vērmane NOUN Case=GenlGer 9 npfsq5 nmod 9 dārzā NOUN ncmsl1 Case=LoclGen 7 dārzs nmod 10 PUNCT 5 punct ZS

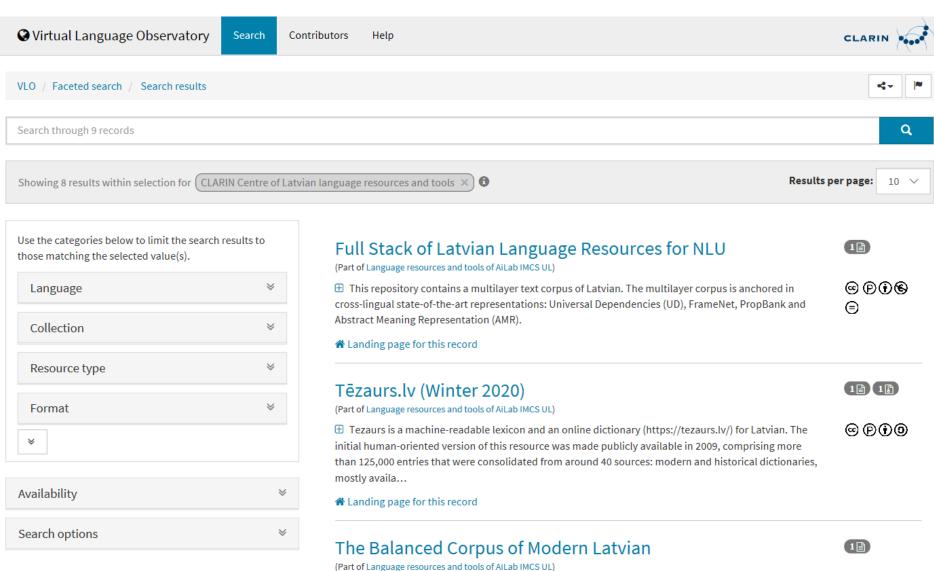
Ādams Panks person vēl aizvien mitinās koka dobumā Vērmanes dārzā location .

## VLO: Virtual Language Observatory





## **CLARIN-LV** in Virtual Language Observatory



variety of existing texts in some estimated proportions. The corpus contains five different domains:

 $\Theta P \cdot \Theta$ 

⊜

## **General Overview**

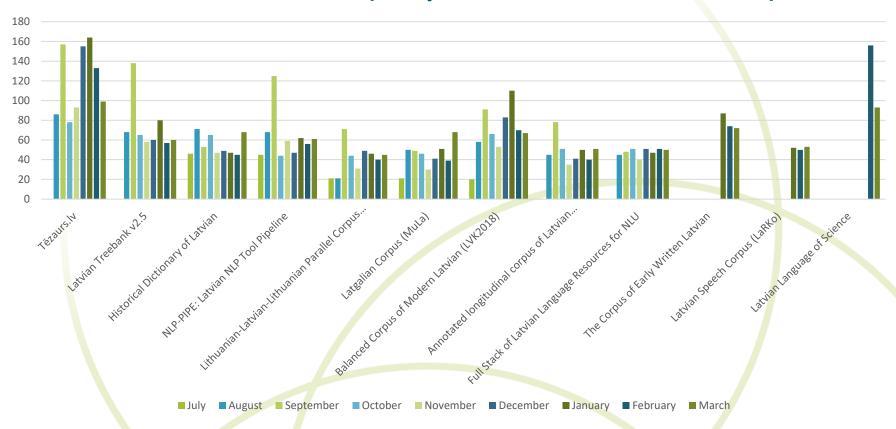
Item Views	6,585
Collection Views	566
Community Views	20
User Logins	268

27 registered users, including users from Lithuania, Greece and Sweden

## Items viewed (July, 2020-March, 2021)

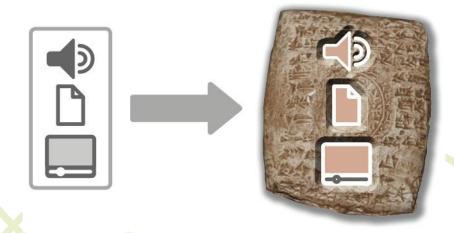
Item/Handle	Number of views
Tēzaurs.lv 2020 (Spektors, Andrejs et al) (20.500.12574/9)	1052 [+bots: 1115]
Balanced Corpus of Modern Latvian (LVK2018) (Levāne-Petrova, Kristīne et al) (20.500.12574/11)	665 [+bots: 696]
Latvian Treebank v2.5 (Rituma, Laura et al) (20.500.12574/10)	655 [+bots: 704]
NLP-PIPE: Latvian NLP Tool Pipeline (Znotiņš, Artūrs) (20.500.12574/4)	629 [+bots: 685]
Historical Dictionary of Latvian (Andronova, Everita et al) (20.500.12574/3)	544 [+bots: 579]
Annotated longitudinal corpus of Latvian children's language (Auziņa, Ilze et al) (20.500.12574/7)	450 [+bots: 477]
Full Stack of Latvian Language Resources for NLU (Grūzītis, Normunds et al) (20.500.12574/5)	442 [+bots: 482]
Latgalian Corpus (MuLa) (Sperga, Ilze et al) (20.500.12574/8)	434 [+bots: 464]
Lithuanian-Latvian-Lithuanian Parallel Corpus (LILA) (Utka, Andrius et al) (20.500.12574/6)	431 [+bots: 461]
The Corpus of Early Written Latvian (Andronova, Everita et al) (20.500.12574/12)	317 [+bots: 328]
Latvian Language of Science (Dubova, Agnese et al) (20.500.12574/30)	314 [+bots: 322]
Latvian Speech Corpus (LaRKo) (Auziņa, Ilze et al) (20.500.12574/22)	187 [+bots: 191]
Mühlenbach Endzelin Latvian Dictionary (MEV) (Andronova, Everita et al) (20.500.12574/38)	53 [+bots: 54]

## Items viewed (July, 2020-March, 2021)



## **Depositing Services**

One of the fundamental services of the CLARIN infrastructure is making sure that language resources can be archived and made available to the community in a reliable manner. To help researchers to store their resources in a sustainable way, CLARIN-LV offers a depositing service.



# Workshop "How to Register Language Resources in the CLARIN Repository"



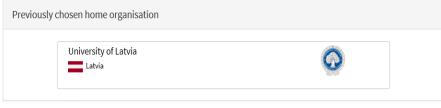
#### Item submission

## The Lithuanian-Latvian-Latgalian Dictionary

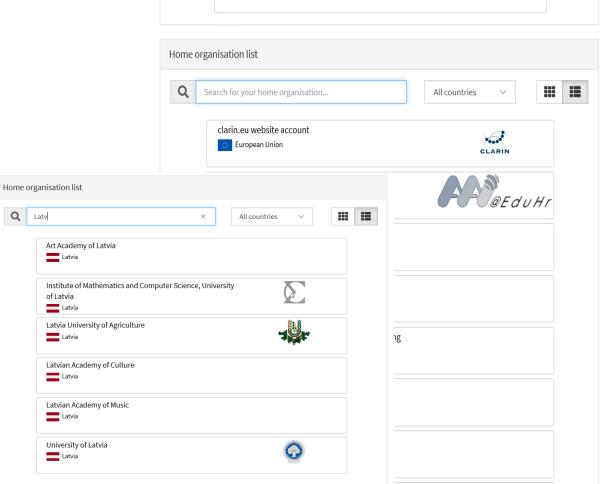
% Project URL	http://hipilatlit.ru.lv/eng/products/dictionary_info.html				
☑ Demo URL	http://hipilatlit.ru.lv/dictionary/eng/dictionary.html				
mate issued	2013				
<b>№</b> Туре	IexicalConceptualResource				
2 Publisher	RTA				
Show full item record					
Resume Cancel	Share submission				



Select your home organisation below. This is usually the organisation where you work or study. Signing in here will allow you to access certain CLARIN resources and services which are only available to users who have logged in. If you cannot find your organisation in the list below, please select the clarin.eu website account and use your CLARIN website credentials. If you don't have such credentials you can register an account here. For questions please contact spf@clarin.eu.



# Deposit and access to licensed resources



### Easy access to protected resources



eng | nob | Sign in: CLARIN SPF | eduGAIN | OpenIdP

Corpuscle :: Home Page

Corpuscle Home
Getting started
Documentation
FAQ
Publications

Corpus list

Links

Query
Concordance
Collocations
Distribution
Word List
Text
Metadata
Overview

Variables

Corpus doc.

**Corpuscle** is a corpus management and analysis system for annotated corpora. The tool is being developed at Clarino Centre Bergen, in collaboration with colleagues at the University of Bergen. The work has been supported by grants from The Research Council of Norway, the Meltzer foundation and the CLARINO infrastructure.

This site hosts several types of corpus collections:

- Open-access corpora
- Restricted-access corpora
- · Norwegian corpora
- Corpus in a variety of other languages
- General language corpora
- Specialised corpora (parallel corpora, dialect corpora, language learners' corpora, historical corpora and more)

All corpora are an integral part of the Norwegian **CLARINO** infrastructure.

To try out the system click on "Corpus list" to the left and choose a corpus to work with.

#### Access

Access to many corpora is restricted to registered users after login.

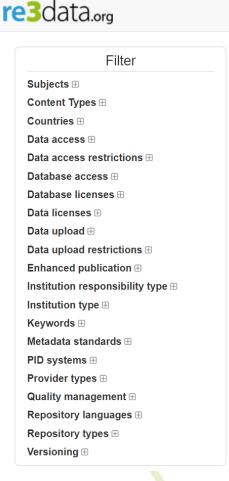
See Getting started for more information.

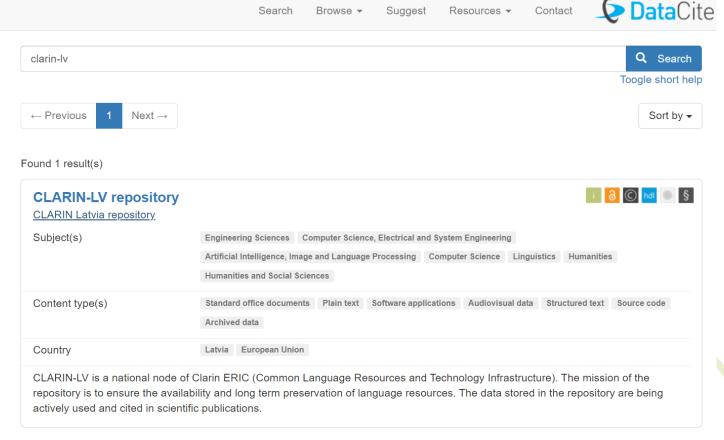
## Easy access to protected resources



## Sustainability







Resources -

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## Sustainability





[Source: CoreTrustSeal Requirements 2020-22]

#### CoreTrustSeal self-assessment template

The CoreTrustSeal self-assessment includes 16 requirements (R1–R16) plus R0 providing contextual information on the repository. This template contains all requirements along with guidance for formulating self-assessment statements and gathering related evidence. Along with the self-assessment statements, the applicant must indicate a compliance level for R1–R16:

- 0. Not applicable
- 1. The repository has not considered this yet
- 2. The repository has a theoretical concept
- 3. The repository is in the implementation phase
- 4. The guideline has been fully implemented in the repository

The <u>CoreTrustSeal Trustworthy Data Repositories Requirements: Extended Guidance 2020–2022</u> document contains more information on e.g. missing evidence, understandability, non-English language documentation, sensitive/internal documentation, structure and length of responses, and further guidance for certain requirements. Please read it before starting!

## SAFMORIL Knowledge Centre

- SAFMORIL CLARIN Knowledge Centre for Systems and Frameworks for Morphologically Rich Languages
- Collaboration between researchers and developers from the University of Helsinki, University of Tromsø, Vytautas Magnus University and the Institute of Mathematics and Computer Science (University of Latvia) in the area of computational morphology and its application to language processing.







- The Conference "Digital Latvian Language Resources and Tools in Common Research Infrastructure"
- The seminar "Tools and Resources for Digital Humanities Research"
- The practical seminar "Balanced Corpus of Modern Latvian "
- The practical seminar "Balanced Corpus of Modern Latvian"
- The practical seminar "How to use Latvian treebank in linguistic studies took"
- Contribution to DH course registry











Apkaime	
Būšnieki	
Bušnieku	
bušprits	
Buštehrada	
Bušteni	
Bušugrava	
bušuruncis	
būt	
hutadiēnkaučuki	

butadiēnkaučuki butadiēnnitrilkaučuki butadiēns butadiēnstirolkaučuki butadions butaforija butaforisks

#### būt

**būt** nekārtns darbības vārds; intransitīvs

#### Īstenības izteiksme:

	Tagadne		Pagātne		Nākotne	
	Vsk.	Dsk.	Vsk.	Dsk.	Vsk.	Dsk.
1. pers.	esmu	esam	biju	bijām	būšu	būsim
2. pers.	esi	esat	biji	bijāt	būsi	būsiet, būsit
3. pers.	i	r	bija			būs

Pavēles izteiksme: esi (vsk. 2. pers.), esiet (dsk. 2. pers.)

Atstāstījuma izteiksme: esot (tag.), būšot (nāk.)

Vēlējuma izteiksme: būtu

Vajadzības izteiksme: jābūt

# Latvian Language Resources in CLARIN Language Resource Families



Latvian language resources and tools are represented in CLARIN language resource families:

- Historical corpora
- L2 learner corpora
- Parliamentary corpora
- Spoken corpora
- Lexical resources

# Looking forward to cooperation and new language resources

Thank you!



**CLARIN** 





INVESTING IN YOUR FUTURE