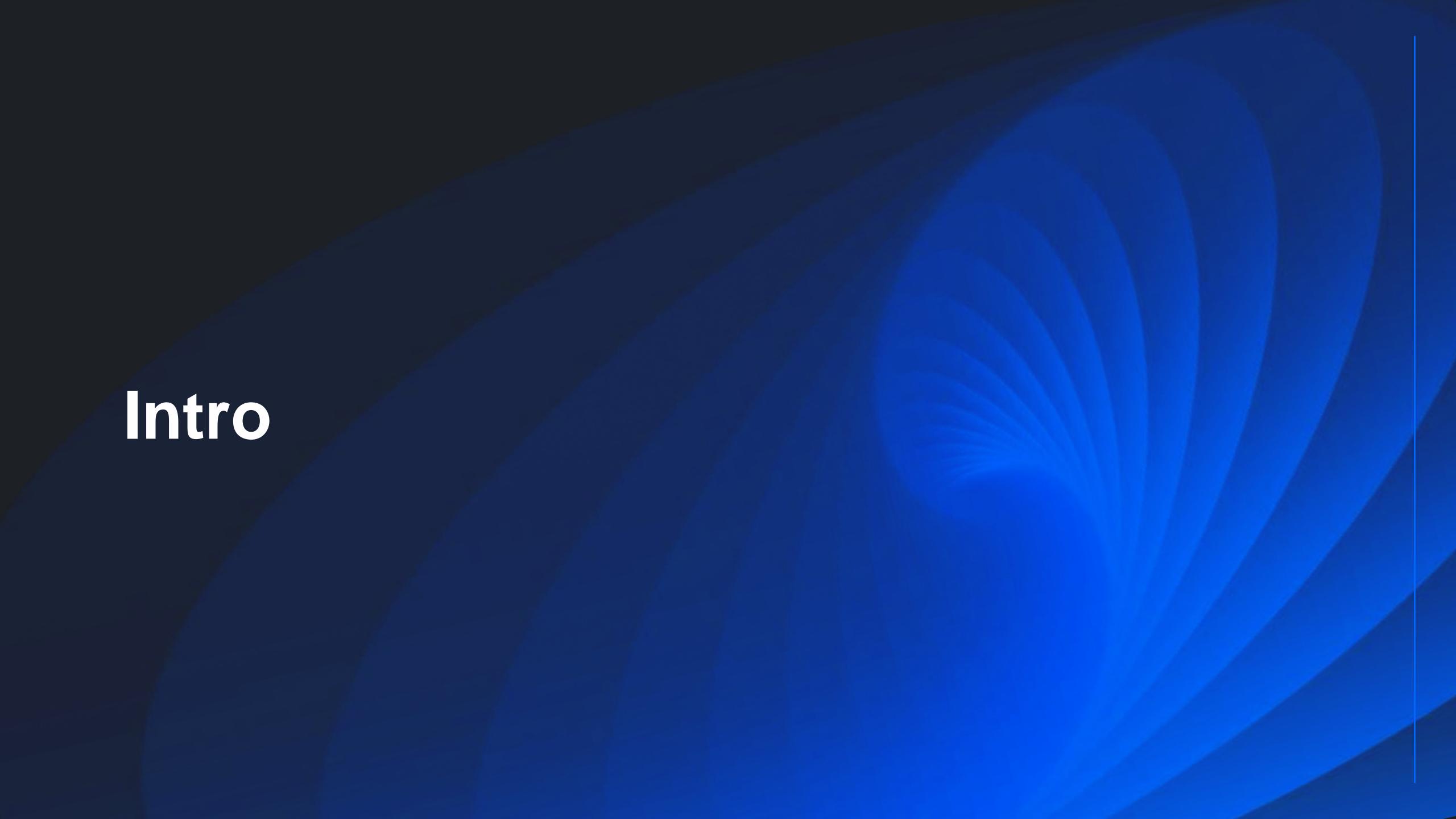


Your one-stop data labeling platform

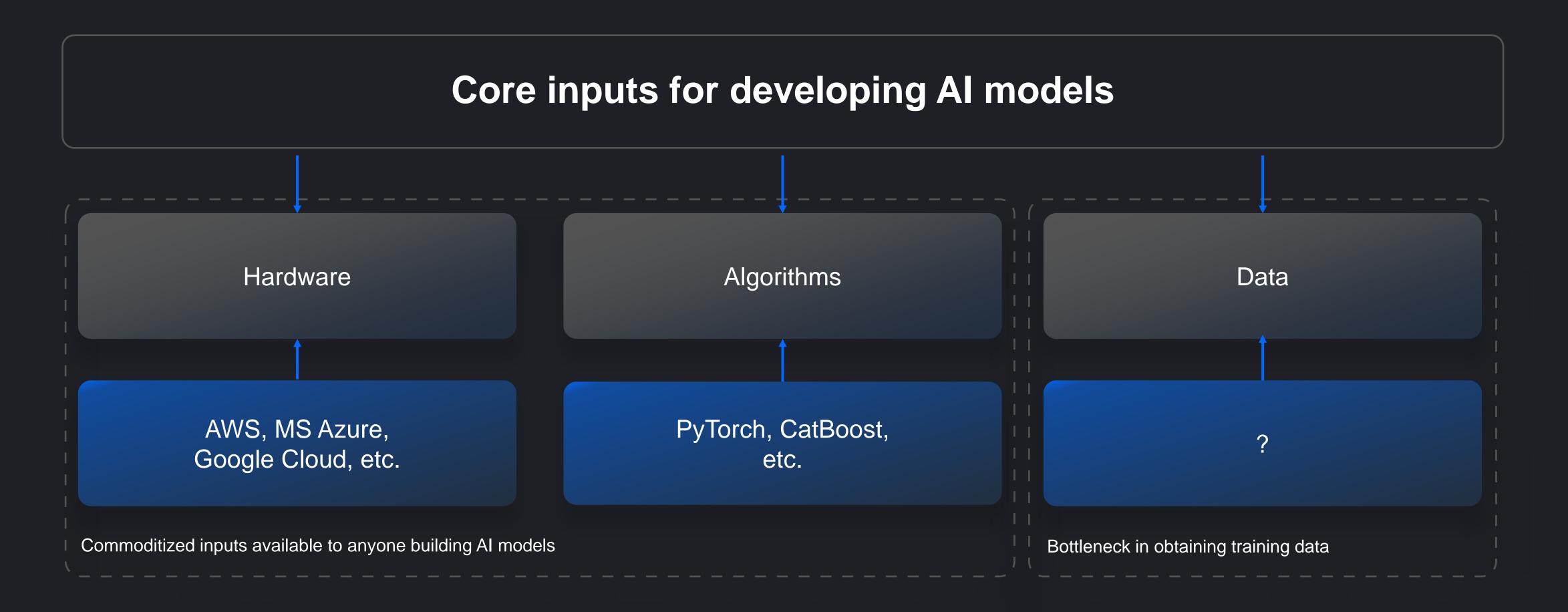
Fast data iterations and easy scaling to support AI/ML development

Powering data-centric AI development since 2014



Context: Data-centric Al is trending in the ML world

Everyone has access to hardware and algorithms. Data is the key to gaining a competitive advantage.

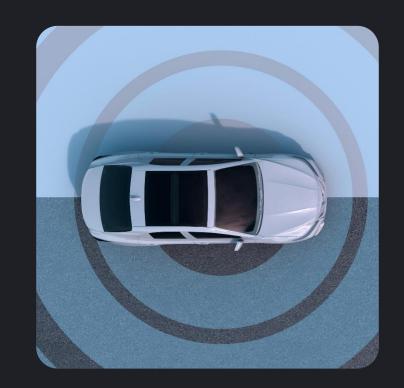




Quality Al demands huge amounts of fresh data for ML production

Accelerate time-to-value with scalable human data labeling

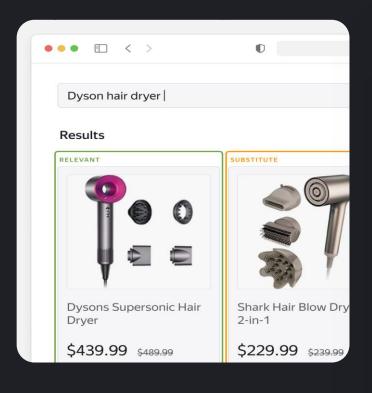
 High-impact solutions are powered by manual data labeling



Autonomous Driving



Speech Technologies

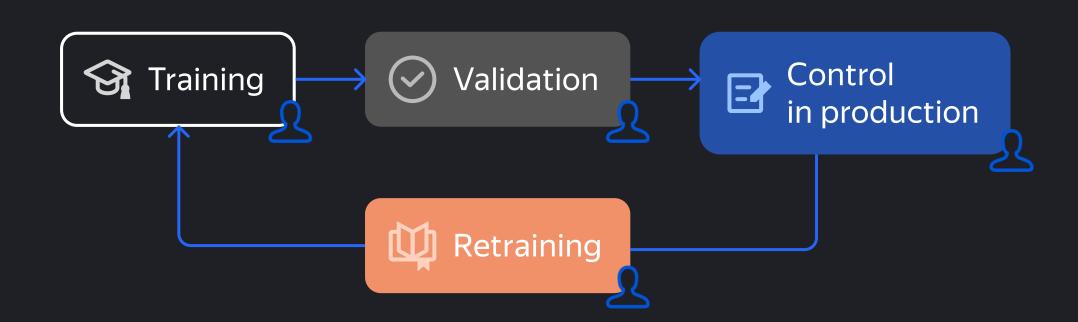


Search

Lingala – lin
Luganda – lug
Luo – luo
Northern Sotho – nso
Oromo – orm
Shona – sna
Swati – ssw
Tswana – tsn
Umbundu – umb
Wolof – wol
Xhosa – xho
Xitsonga – tso

Machine Translation

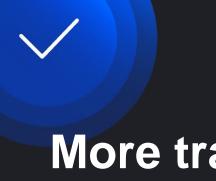
 ML development requires human-labeled data at every step





Improve quality of Al-based products by focusing on data

A scalable solution can produce larger datasets with shorter timeframes and faster feedback on model performance



More training data leads to better model accuracy



Fresh data for continual retraining helps prevent data drift



Continual human feedback accelerates validation and deployment of new models

Challenges of working with data

- Sourcing the data
- Finding resources to label large datasets
- Managing and automating data collection and labeling
- Choosing the right tools for in-house labeling
- Scaling up and down with fluctuating data volumes
- Optimizing data processes with the right combination of automated and manual data labeling



Global trends for data labeling and collection



Crowdsourcing platforms (self-service)



Data labeling vendors (turnkey solutions)



In-house data labeling



Toloka: delivery models



Open crowdsourcing platform

Self service

Wide range of quality control tools and state-of-the-art technologies. Highly customizable for all your data workflows

- ⊙ On-demand global crowd
- Design your own data flow or use preset projects
- Solution maintenance fully on Client side
- 24/7 tech support
- API + Python libraries
- Flexible price per task + platform fee
- Pay as you go, no data minimums



Bespoke solutions to support the ML lifecycle

Managed service

Individual solutions developed on request to support data-related processes across the entire machine learning lifecycle

- Provide the project specs and get a custom solution that's ready to use
- Solution maintenance fully on Toloka side
- Dedicated manager
- API
- Fixed price per label
- Annual commitments with volume-based pricing



About Toloka



Data labeling solutions to transform your Al

Founded in 2014 after years of research and experimentation, Toloka is a global tech company that develops a platform and environment to support data-related processes.

Designed by engineers for engineers, Toloka enables data scientists and ML teams to get ML solutions to production faster by:

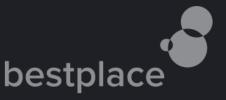
- testing hypotheses
- boosting the success rate of prototypes
- building optimal data production pipelines

10+ years

of industry experience, scientific research, and contributions to the AI community

Trusted by leading global ML & Al teams



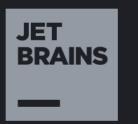
















PLUGANDPLAY



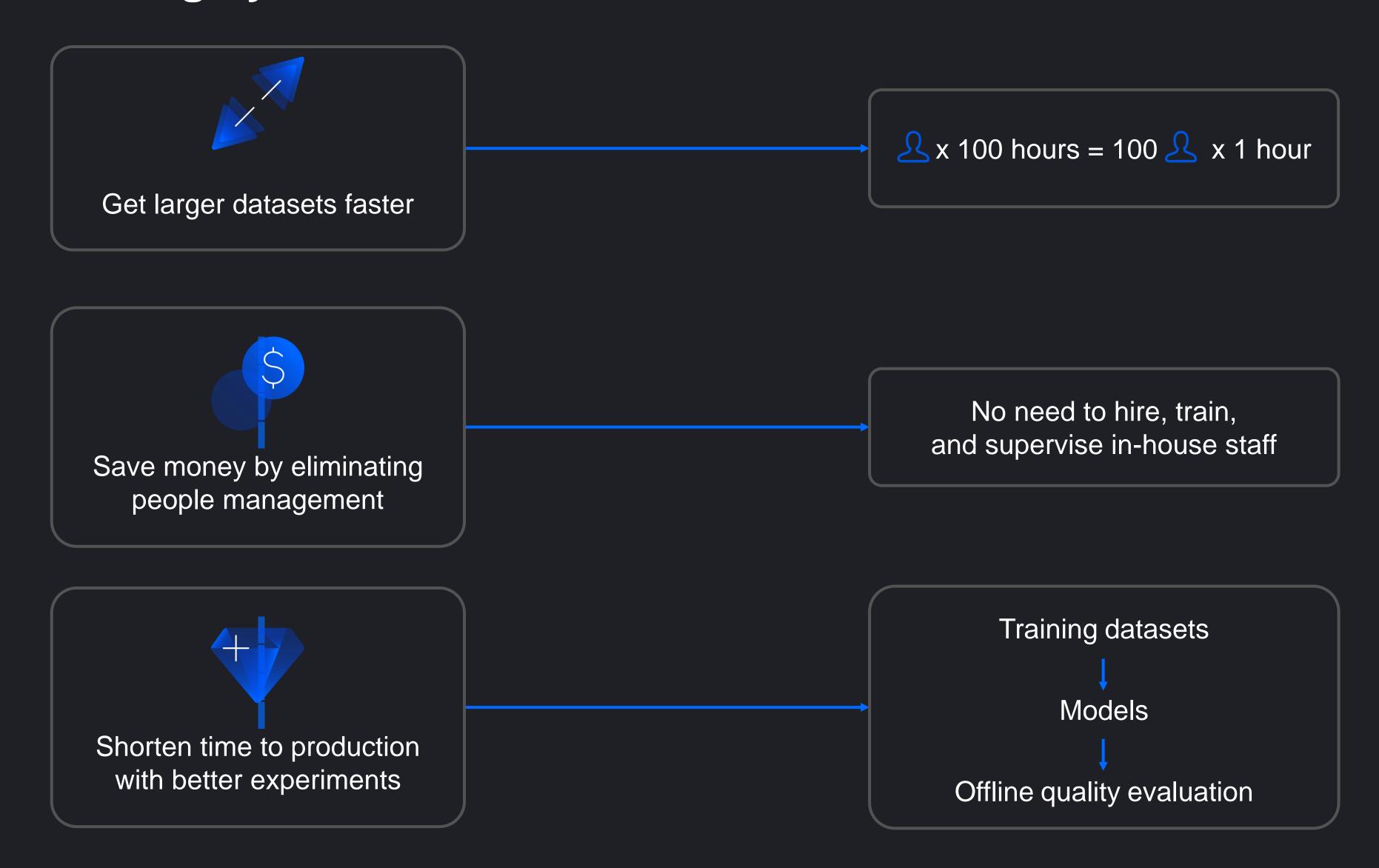
SAMSUNG



Yandex

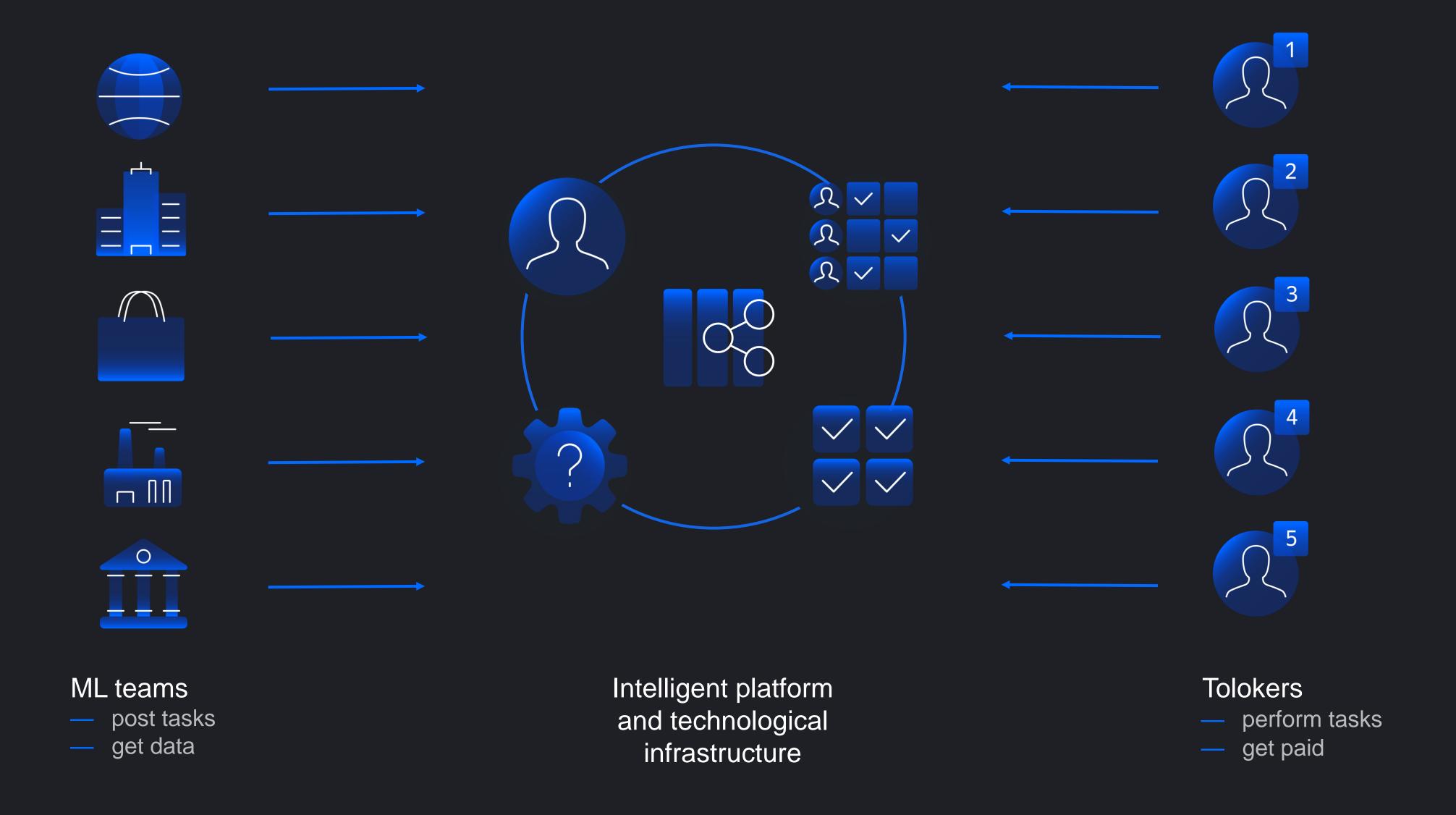


Why choose a highly scalable data solution like Toloka





Our data labelling platform is purpose-built for scaling



Loved by leading ML teams



Fast scalability



Short turnaround time



Wide range of quality control tools



Real-time data labeling



API and Python SDK for easy integrations



Clear pricing



"We were really impressed with how fast we got our project done in Toloka — 10,000 ads were reviewed in just 12 hour."

Special Projects Team



"Thanks to Toloka, we're able to run numerous data projects on a regular basis. What we gain is a dependable approach to data labeling." Crowd Solutions Architect



"With Toloka we were able to resolve even the most difficult cases of recognizing handwritten text in documents for our customers." Founder and CTO of Dbrain, Y Combinator alum



"We chose Toloka because of the fast turnaround time and the active participation of performers." Data engineer



"We choose Toloka because of high throughput for large data volumes, – we collected the world's largest database of 200,000 unique photos and videos."

Science Director and Co-founder



"Toloka is the first place we go to prepare data for AI. We get a full set of quality control tools and it's 10 times cheaper than our previous solution."

Head of Technologies



Recognized as an industry advocate

We are committed to making an Impact on the Al industry and helping companies unlock Al opportunities

Gartner

Featured in Gartner's Hype Cycle

Report for Data Science and ML

as a notable data labeling

Open source

We encourage collaborative development on open source projects that make it easier to work with crowdsourced data

We have established our expertise among industry leaders with research papers and workshops at top-tier AI conferences

<u>KDD-2019</u>

SIGMOD-2020

VPR-2020

NeurlPS-2020

CML-2021

WSDM-2020

/LDB-2021

We share our advanced crowdsourcing techniques in <u>open datasets</u>, <u>online courses on data labeling</u>, and collaboration with top universities

Carnegie Mellon University **TU**Delft

WUNIVERSITY of
WASHINGTON

 $oldsymbol{u}^b$ universität Bern



Global AI community

We support a global community of AI practitioners for open exchange of ideas and know-how

We consider it a privilege to contribute to the AI community with responsible data production that supports ethical approaches to training, testing, and monitoring AI



solution

Why Toloka is the platform of choice

Toloka's capabilities are rooted in Intelligent technologies, a diverse global crowd, and infrastructure to support the most demanding projects

State-of-the-art technologies

- Multiple quality control methods
- Adaptive selection of performers
- Smart matching mechanisms
- Autolabeling (on demand)
- API and open-source libraries for seamless integration

The largest global crowd coverage

- 100+ Countries
- 40+ Languages
- 200k+
 Monthly active Tolokers
- 800+
 Daily active projects
- Continuous data labeling

Robust infrastructure

- 499M+
 Tasks per month with exceptional throughput
- Privacy-first, GDPR-compliant focus on data protection
- Information security management system (ISMS) is ISO 27001 certified
- Multiple data storage options, including Microsoft© Azure cloud for world-class protection
- Dedicated antifraud team monitors adherence to business policies



The largest global crowd coverage

For multilingual projects and fast scaling

100+

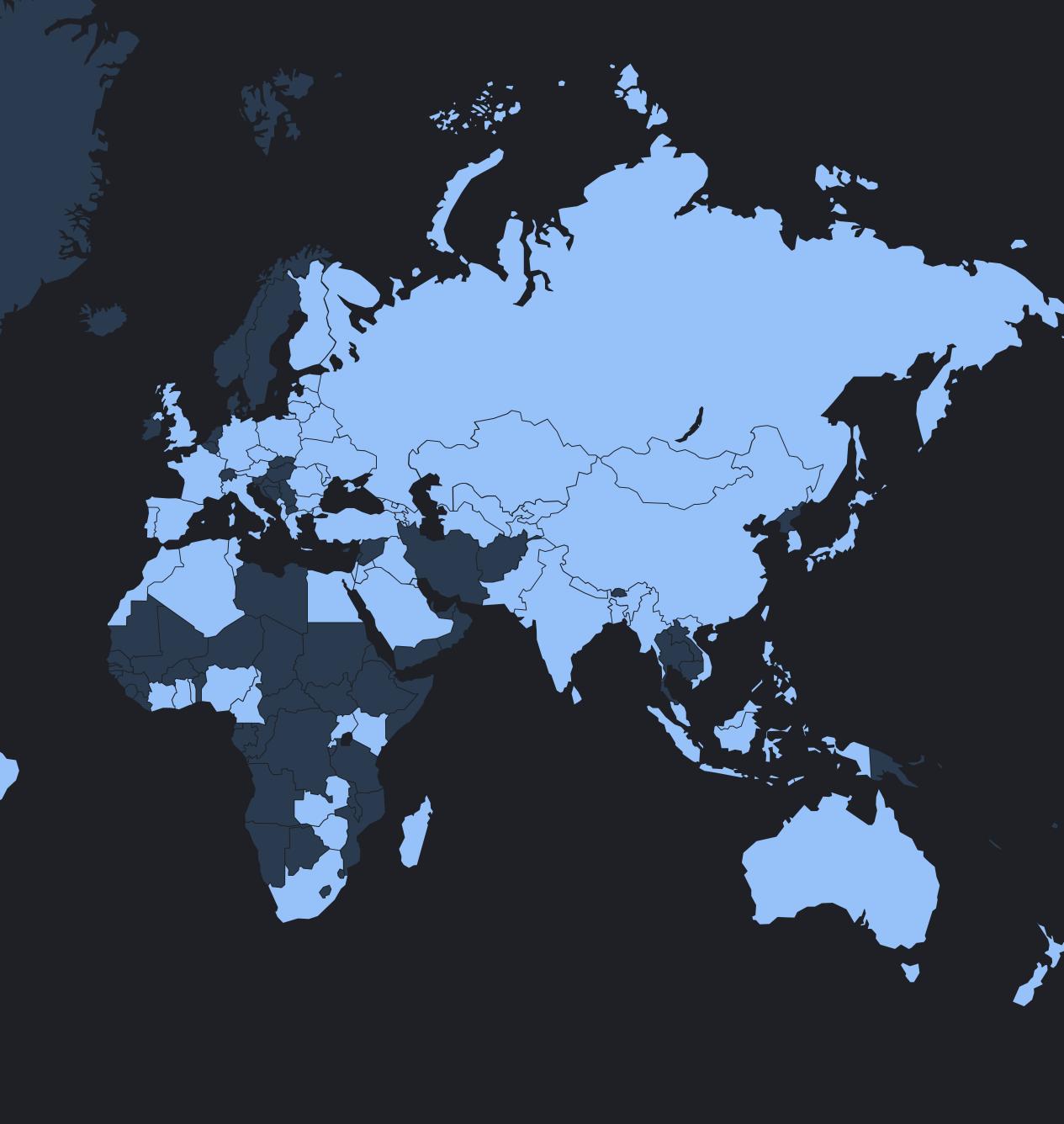
countries with active Tolokers

40+

languages spoken

Top languages

- · English · Spanish · Arabic · Portuguese · Russian
- · Ukrainian · French · German · Italian · Polish · Hindi
- · Latvian · Bulgarian · Czech · Turkish · Vietnamese
- · Japanese · Chinese · Korean · Indonesian





State-of-the-art technologies

Transform the crowd into computing power with advanced technologies for quality management

Multiple quality control methods

Toloka offers different approaches to achieve the best quality for each project



Post-verification



Task-based crowd training and testing



Golden sets (honeypots) to monitor quality



State-of-the-art aggregation tools



Platform-wide anti-fraud system

Adaptive selection of Tolokers

Multi-stage selection of a distributed crowd



Audience filters by language, age, gender, interests, location, real-time ranking, and more



Training, exams, and retraining to find Tolokers for your exact task

Smart matching mechanisms

Patent-pending matching system that honors the preferences of requesters and Tolokers for mutual benefit



Invite Tolokers to a project who are most qualified to handle it



Offer Tolokers personalized recommendations of interesting projects they will enjoy

Autolabeling & verification (on demand)

Autolabeling and pretrained models with quality control built in



Automated prelabeling.
Results are verified by human
Tolokers for high accuracy.



Human in the loop workflows



Designed for versatile use cases

E-commerce

Recommendation systems

Search relevance

Product page translation

Online product categories

Moderating reviews

Price extraction

Generating product descriptions

Marketing surveys

Product search by image

Monitoring support quality

Social media monitoring

<u>NLF</u>

Search relevance

Text classification

Sentiment analysis

Intent classification

Utterance collection

Named entity recognition

Computer vision

Object detection

Image segmentation

Image classification

Image transcription

Side-by-side comparison

Image and video collection

Field data collection

Verifying addresses

Verifying business hours

Monitoring products on retail shelves

Voice assistants

Speech to Text & Text to Speech

Verifying voice assistant responses

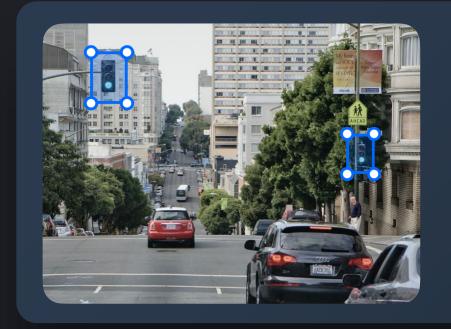
Recording activation phrases

Social science

Qualtrics surveys



Turn-around time and cost in real use cases



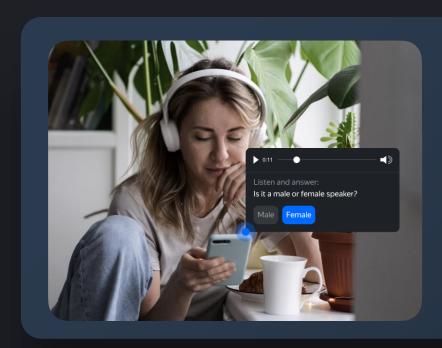
Object classification

1000 photos

15 min



\$ \$2.4



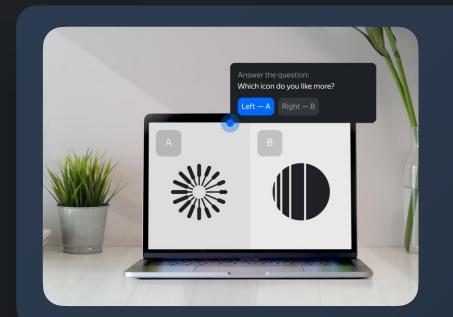
Audio transcription

100 recordings (25 min each)

20 min



\$12



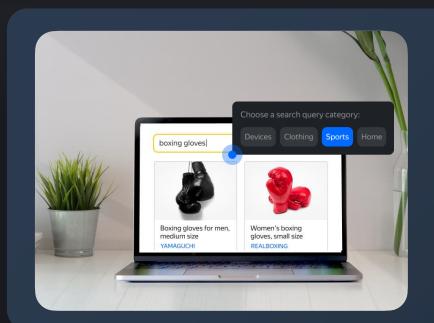
Side-by-side comparison

1000 photos

10 min



\$4.8



Object segmentation

1000 objects in 100 photos

5 hrs



\$7.2

Case studies



Powering high-impact Al projects

Trusted by leading ML & AI teams

AliExpress

Improved crowdsourced translations of product descriptions

Results:

17% budget reduction while achieving optimal quality

Learn more

Yandex

Enhanced performance of a recommendation engine

Results:

6X

reduction of errors in the product recommender model

bestplace

Improved the accuracy of a predictive tool using local shopping patterns

Results:

30% improvement in app accuracy after data collection, reaching 95%



Tuned a 3D foot sizing app for better accuracy

Results:

12%

improvement in app accuracy with accelerated time to market

Learn more

AliExpress



BIOTRONIK

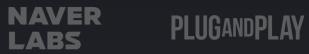






JET BRAINS









SAMSUNG

trivago°

Yandex



Conclusion



Conclusion

—Al products and data-driven business decisions require stable and fast inflows of highquality data

 Crowdsourcing is an effective tool for collecting and labeling data used for products and decision-making

 Toloka provides the infrastructure, tools and crowdsourcing methodology for data collection and labeling pipelines