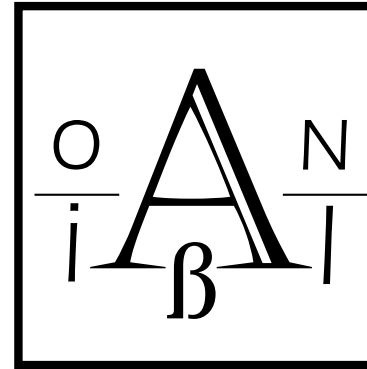


MARIA NEKRASOVA

ONLINE FASHION MODELING

Development and research of design processes
in clothing production through proportional form
calculation



ALBION

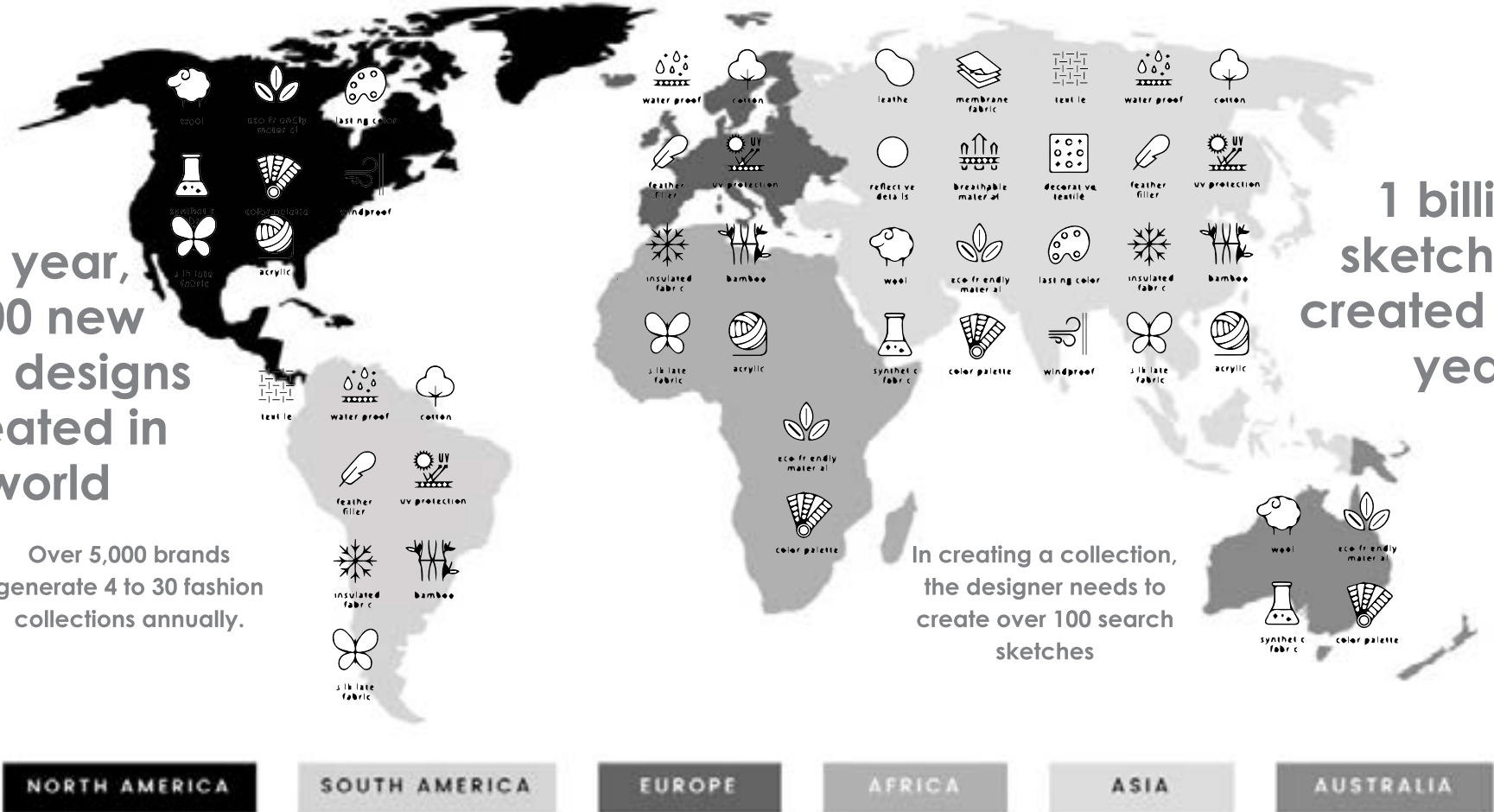
With every new season, fashion changes rapidly

Every year, 600,000 new clothing designs are created in the world

Over 5,000 brands generate 4 to 30 fashion collections annually.

1 billion sketches is created every year

In creating a collection, the designer needs to create over 100 search sketches



NORTH AMERICA

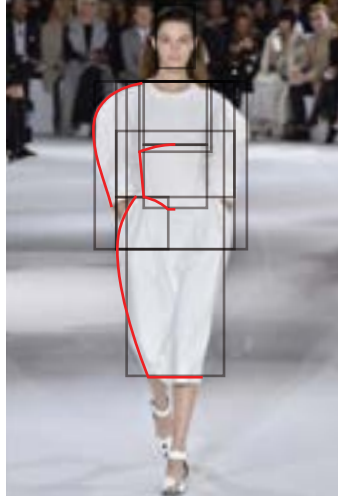
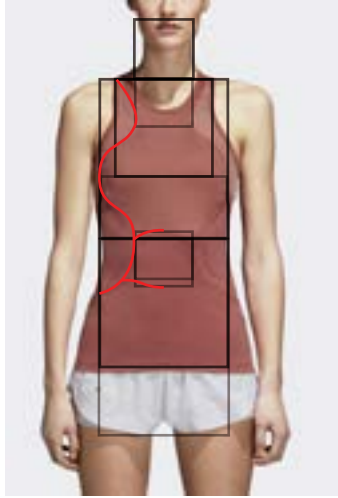
SOUTH AMERICA

EUROPE

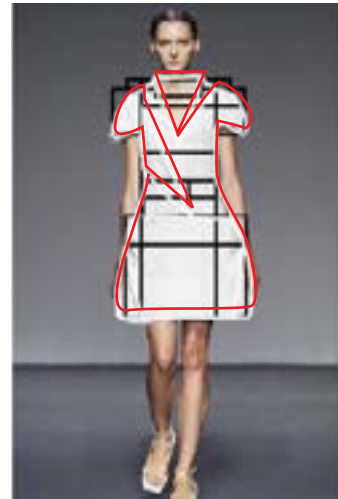
AFRICA

ASIA

AUSTRALIA



Proportions in fashion industry

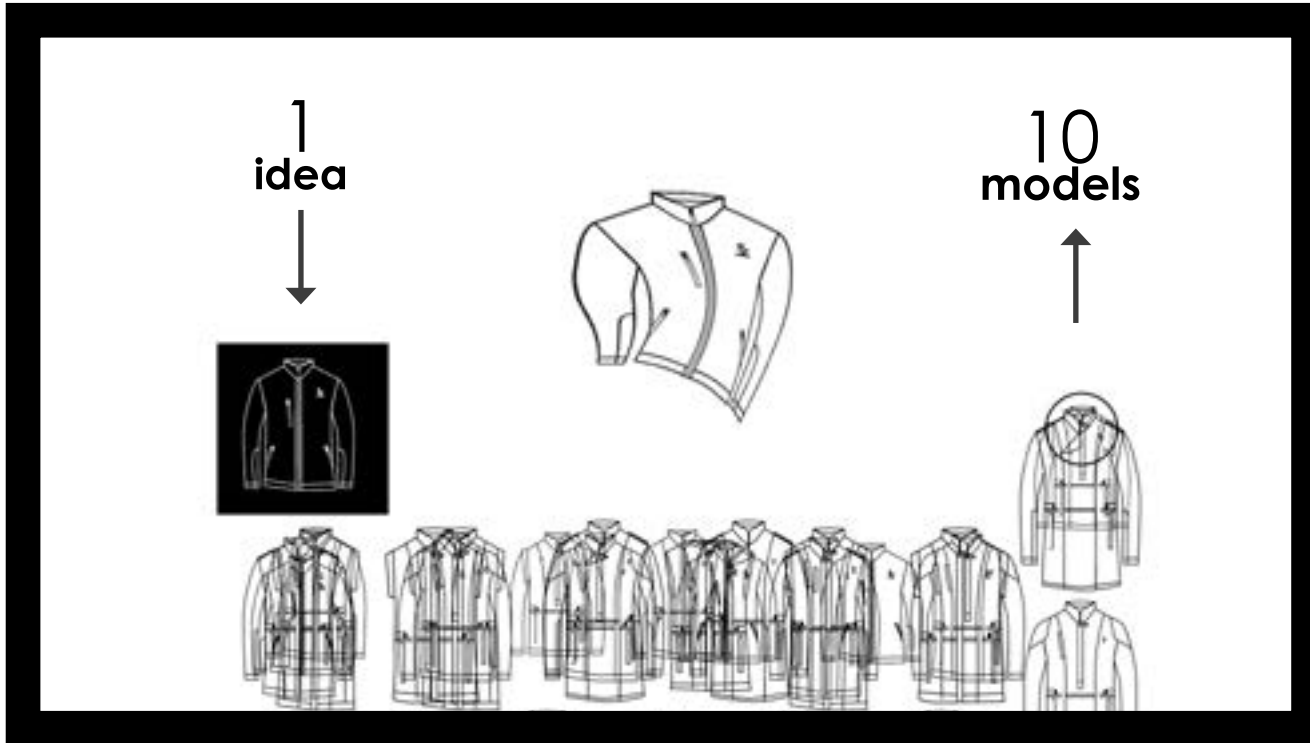


The world's leading brands use mathematical methods of composition like Modulor and Dynamic Symmetry.

With them, the silhouette and details of the costume composition can be calculated with formulas.

Consumer goods manufacturing is the most dynamic industry sector which senses all changes in fashion and tastes, all specific features of market demand.

All enterprises of the industry tend to enrich their equipment with intelligent technologies. It is particularly true for the knitting/hosiery industry (for wider variety of ornaments) and the clothing industry (for effective cutting of fabrics), etc.



Objective

To create a cloud service and client application that will allow styling design of clothing through research and programming of proportional composition methods.

Innovation



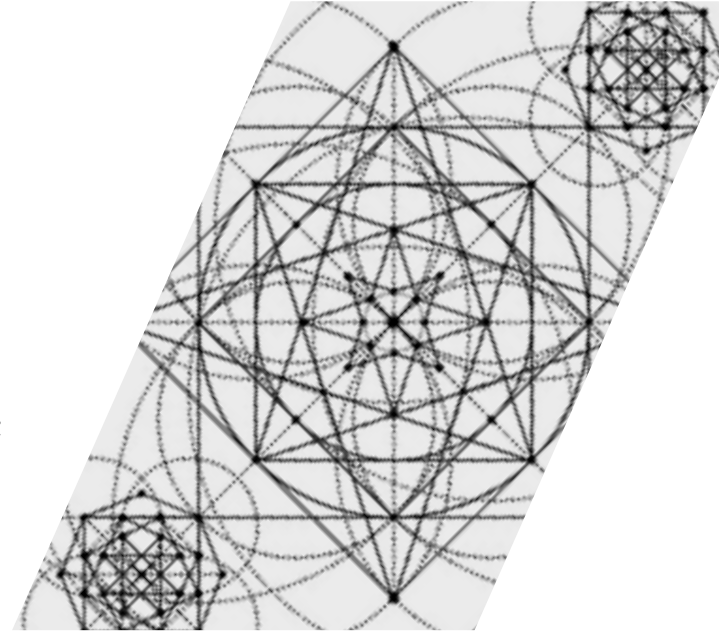
We use computer conversion algorithms of fashion sketch to initiate computer modeling of a piece of clothing.

We use a database of user inquiries to create a system for fashion analysis and prediction.

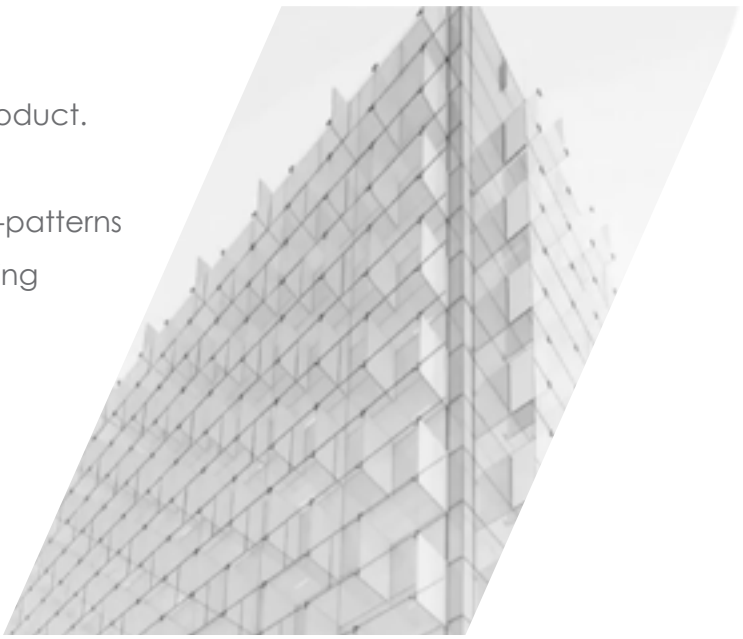


Tasks

- To distribute Fashion Albion among corporate clients
- To build a database of Albion sketches
- To automate formulas for constructing clothing designs;



- To increase the value of the product.
- To create an algorithm making production-patterns from draft-patterns
- To develop an algorithm creating draft-patterns out of 3D model



- To teach the algorithm to generate sketches
- To interpret the results of the neural network operation
- To create a trademark and protect intellectual property.

Research Methods

- Statistical analysis of online inquiries from Albion users
- Experimental launch of machine learning processes
- Comparative analysis of the cutting methods for 2D and 3D modeling
- Monitoring of the neural network learning process, recording and interpretation of the learning dynamics.





Smart graphics

Automated design should be a tool that helps artists enjoy free creation and improve their pieces. Creative expression might be affected by insufficient knowledge of technical aesthetics and routine structure calculations.





PHOTO

Uploading an image of the client's figure



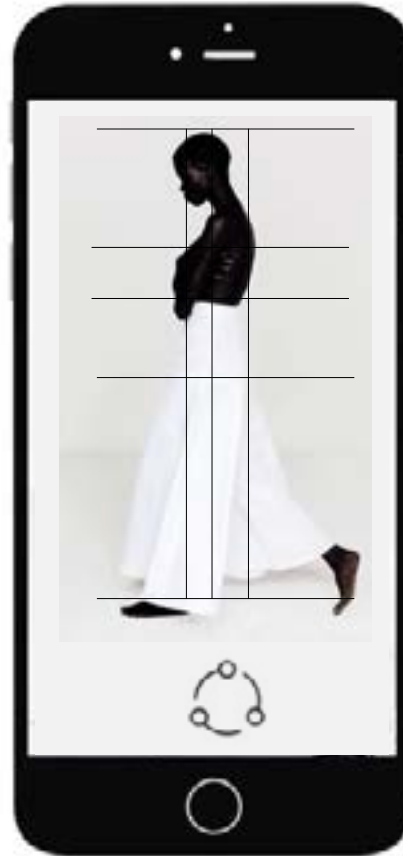
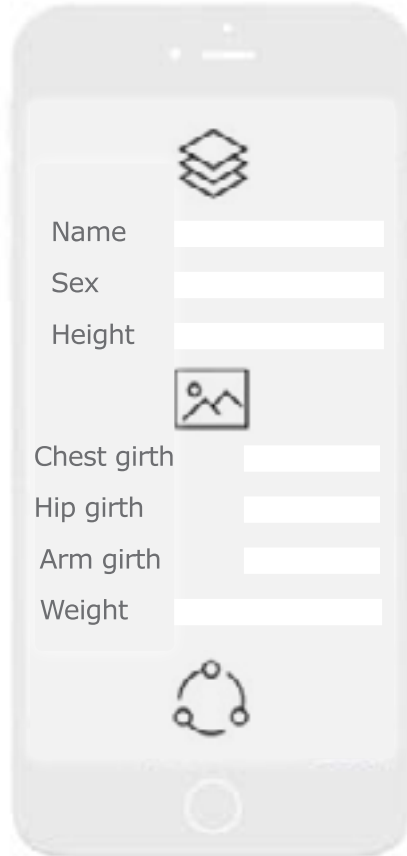
PARAMETER INPUT

Entering individual parameters, key measures, and clothing classes.



CONVERSION

Calculating draft-patterns for the given clothing class.



IMAGE

Uploading a clothing template or pencil sketch



SAVING

Saving and downloading a draft-pattern and sketches in common formats



CONVERSION

Changing the contours according to the algorithms for conversion, proportion, scale, and fractal.

import svg

save data in vector

save txt

save data

open ADEM

3D model result

build body position

build silhouette, up

pattern lines/stitches

build silhouette, down

furniture

pockets, collars, cuffs

clear all

Clear window

new view

Show result



Sketches with Albion

INPUT DATA

Upload bitmaps and photos, Draw the contour with reference points on the angles Change contours Save contours in vector format.



CONVERSION



Albion forms a variety of composition versions corresponding with the reference figure scaling by height, waist, and shoulders. You see a professional sketch build on the basis of the draft sketch and template figures.

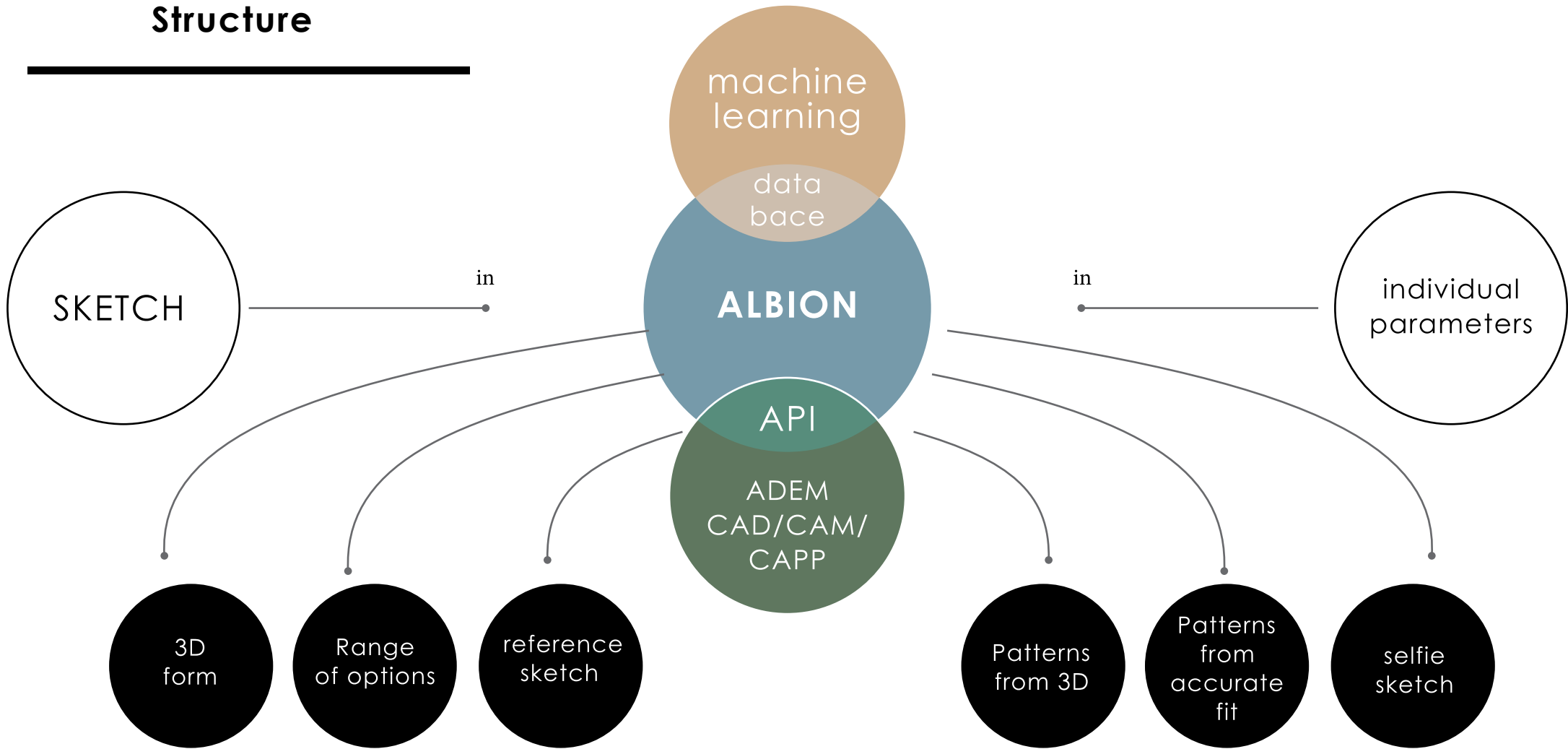
Your opportunities with Albion

With fashion sketch, you can make

- 1) Professional clothing sketches
- 2) 3D prototype of a piece of clothing
- 3) Individual clothing patterns
- 4) Fashion forecasts.



Structure



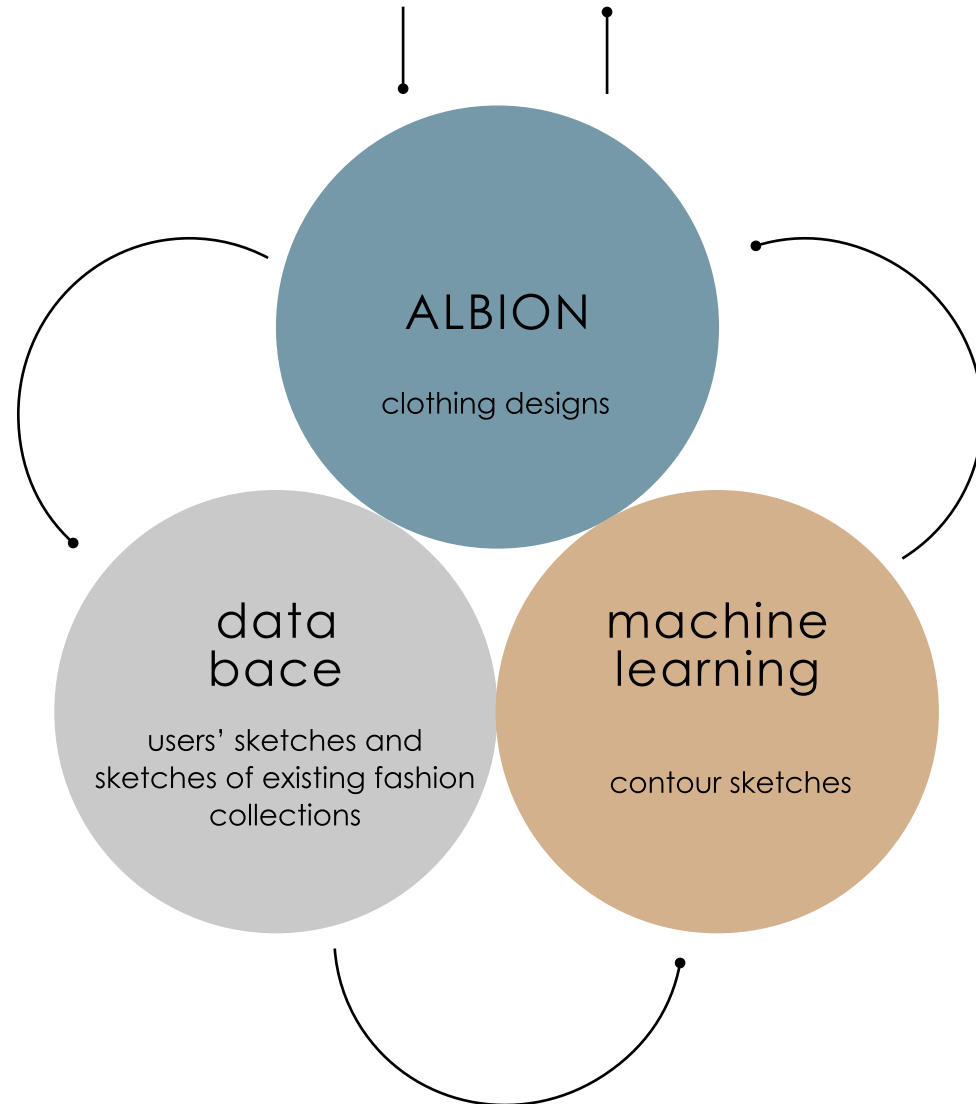
Machine Learning

To sense the pulse of fashion

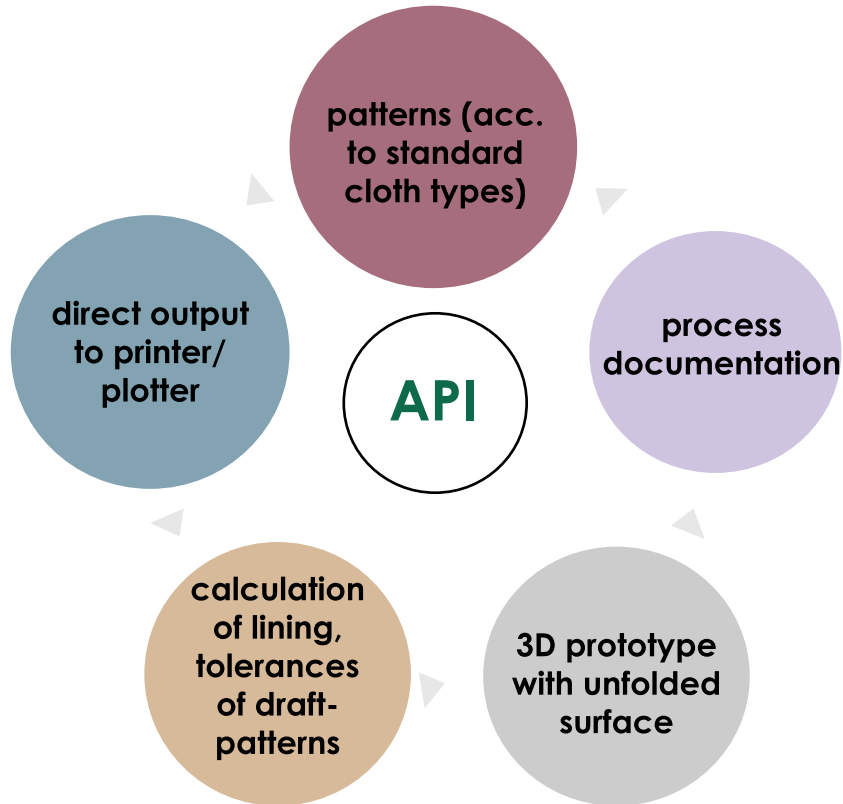
Albion (Statistic) consists of three main components. Our smart graphic editor feeds the database of harmonized clothing contours.

The database is being promptly enriched the students of Udmurt State University (they process the data of existing fashion collections).

It provides a data pool to teach the recurrent neural network.



SERVICE FOR ENTERPRISES



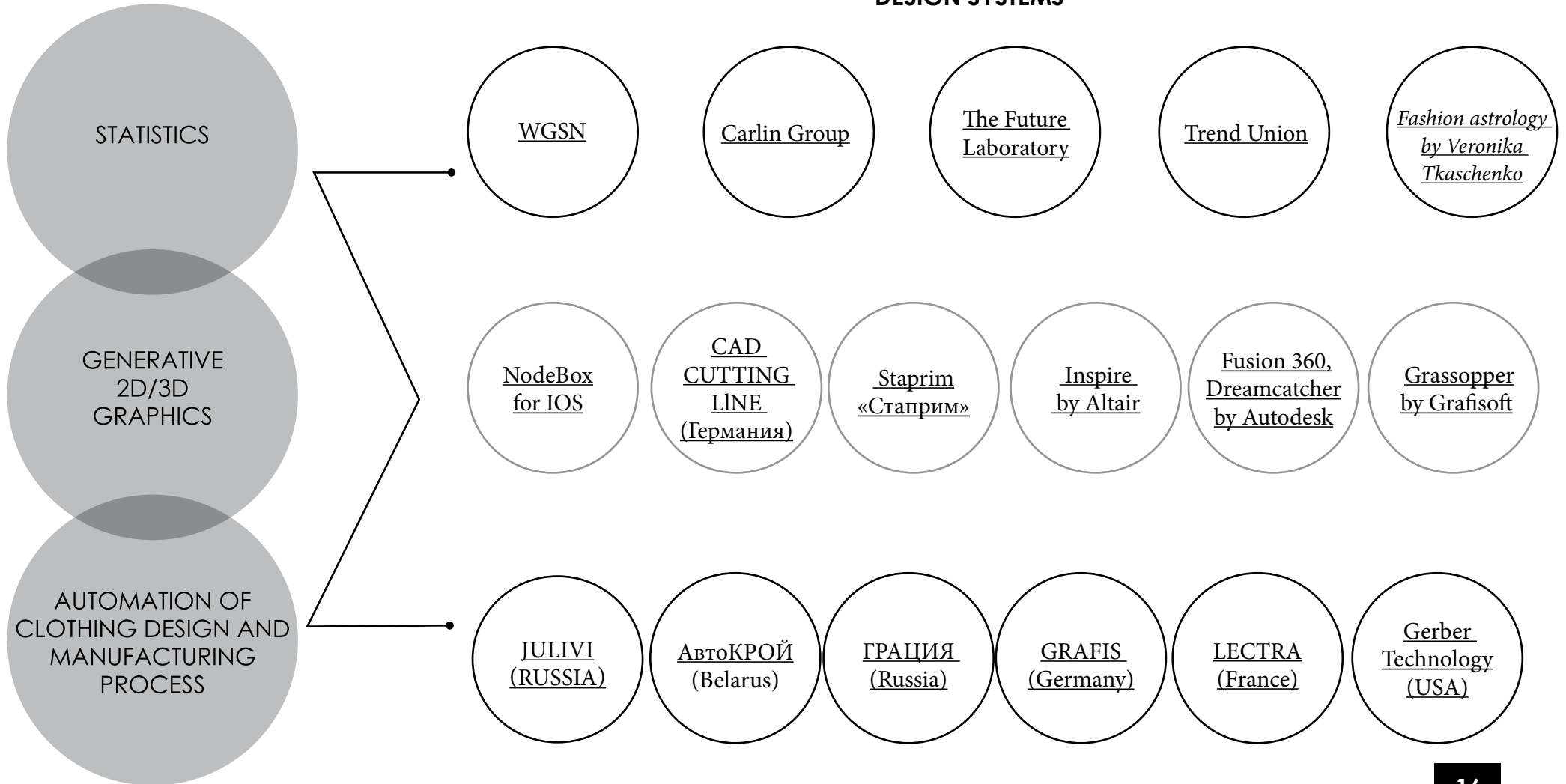
Developing expert plug-ins (ADEM CAD/CAM/CAPP) for corporate product range Developer.

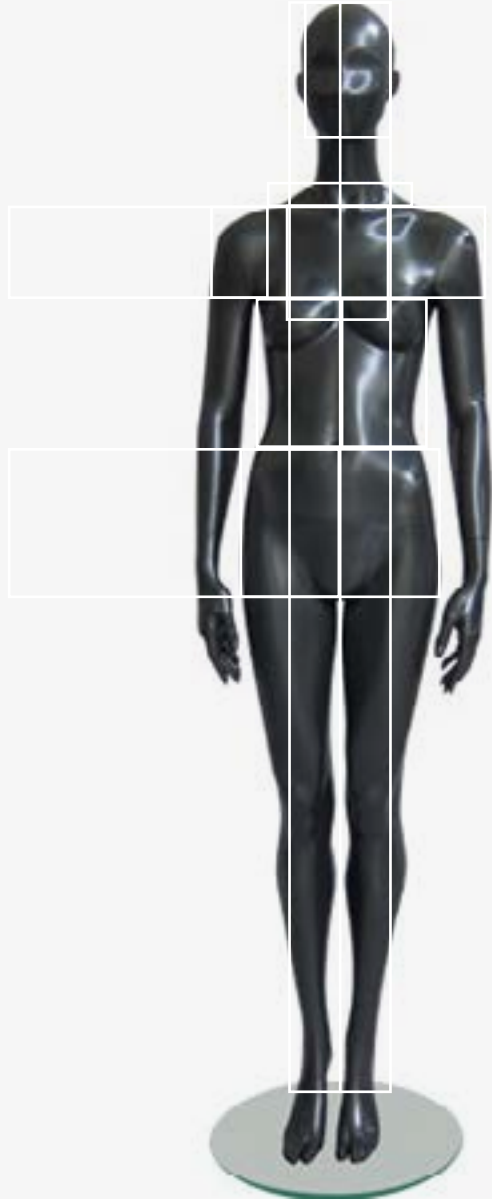
The system has been developed since the early 90's by developer groups from Moscow (Cherry CAD) and Izhevsk (Katran).

ADEM is an integrated tool for designers (CAD), technologists (CAPP), and NC programmers (CAM). So it includes various CAD systems under a single control logic and on a single information base.

ADEM can be applied in various industries: aviation, nuclear power, aerospace, machine-engineering, metallurgy, machine-tool building etc.

KNOWN INFORMATION RESOURCES AND CLOTHING DESIGN SYSTEMS





2D cut

Accurate cuts are based on the basic structure model ideally describing one's figure. It is adjusted depending on the clothing class (e.g. for loose style or fabric stretch).

When modeling the relief lines, the sketch contours are compared with the basic cuts and modeled.



Sketch-based 3D design and unfolded surface in ADEM CAD





Iris Alabaster

The pilot collection made with the presented method, has won the XV International Contest Golden Thread in Saint Petersburg (Russia)



Technical Conditions

Albion' neat interface is designed for touchscreen mobile computers with an Internet connection of at least 70 Mb/sec



Our Pricing

The initial target group for our product is young brands in search of style and good design solutions.
The sales model is a direct payment for the goods:

- Professional clothing sketches,
- 3D clothing prototype,
- Individual clothing patterns,
- Fashion forecasts, etc.

Working with big enterprises needs a flexible pricing system customizable cutting system

10\$

Download 1 reference sketch in
editable format without watermarks

BUY NOW

30\$

Download 1 set of design patterns
in editable formats for direct cutting
on plotter

BUY NOW

**2000\$
per month**

Cooperation and development of
customized expert
cutting system

BUY NOW

Founders

The project started in 2015, when the development of the Albion graphic editor was launched.



ALEKSEY KAZAKOV
Research Supervisor
CEO at ADEM
(CROWN LLC)



MARIA NEKRASOVA
Expert, Designer,
CEO at Albion



ILDAR GANIEV
technologist,
CIO

Engineers

The core of the project for machine learning and artificial intelligence is two young specialists fond of neural-network designing of the future. Trainings at development companies PureMind and ADEM successfully complemented the knowledge gained at Moscow State University.



TIKHON SEKRETAREV
data engineer,

**graduate of Moscow State University,
Department of System Programming**



SERGEY SEKRETAREV
data scientist, CTO

**graduate of Moscow State University,
Department of Mathematical Statistics
and Random Processes**

РОССИЙСКАЯ ФЕДЕРАЦИЯ



СВИДЕТЕЛЬСТВО

в государственной регистрации программы для ЭВМ

№ 2017610212

Программа гармонизации формы нестероидного контура
Альбион (Albion)

Примечание: Некрасова Мария Владимировна (ИУ)

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Гинев Владимир Николаевич (ИУ)



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по интеллектуальной собственности

Г. Г. Денисов

ФОНД СОДЕЙСТВИЯ РАЗВИТИЮ

Курса для предпринимателей и корпоративных управленцев



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