

Robotic pizza kiosk

FoodTech startup in the most popular segment of the catering market. The cost of opening one outlet is 7 times lower, and the profit is twice as high in comparison with traditional pizzeria.

Perm — Singapore



The problem lies in the high costs of traditional pizzerias

The high staff costs

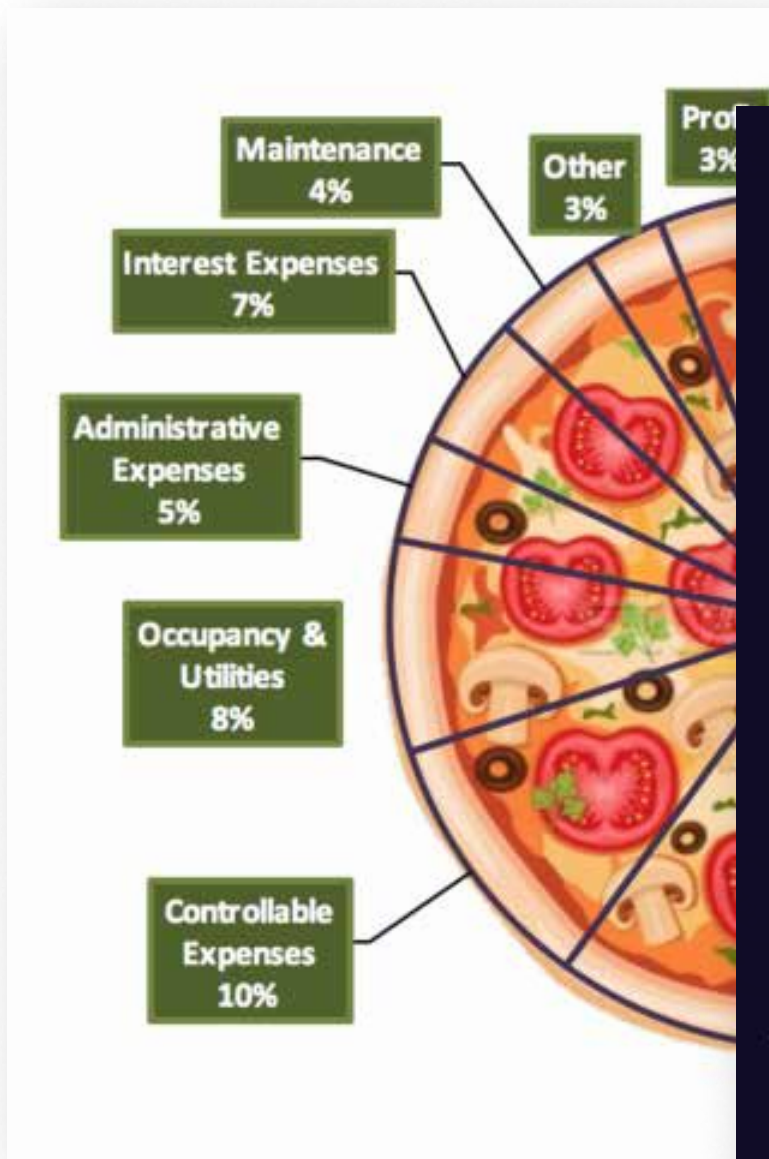
Salary, taxes, training take the largest part of expenses.

The high rental cost

The restaurant of usual kitchen and the hall takes 150-200 square meters at least, while it should be in high-traffic place.

The high costs of business start

There are renovation, furniture, kitchen equipment, etc.



Source: newtuscia.it



Source: marketplace.org



22% Pizzeria Profit Margins

Source: startengine.com

Source: startengine.com

The high costs

The small profit

The problem lies in the lack of trust in vending pizzerias

The current solution at the market is the classic vending designed 10-20 years ago. It's a closed-type container offering a small number of recipes to choose and providing the lack of confidence in the quality and the freshness of products.



Basil Street

Let's Pizza



Smart Pizza



Shiok Pizza



Pizza Forno



Pinno Pizza



Pizza Box



Pizza GIO



IL Panificio

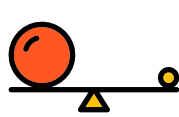


The solution is to reduce costs

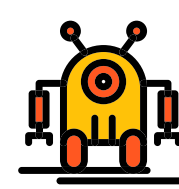
The robotic pizza-kiosk cooks the high-quality portion pizza taking just 3,8 square meters and minimizes costs in comparison with the traditional pizzeria.



The fast start
deliver, load products
and start selling pizza.

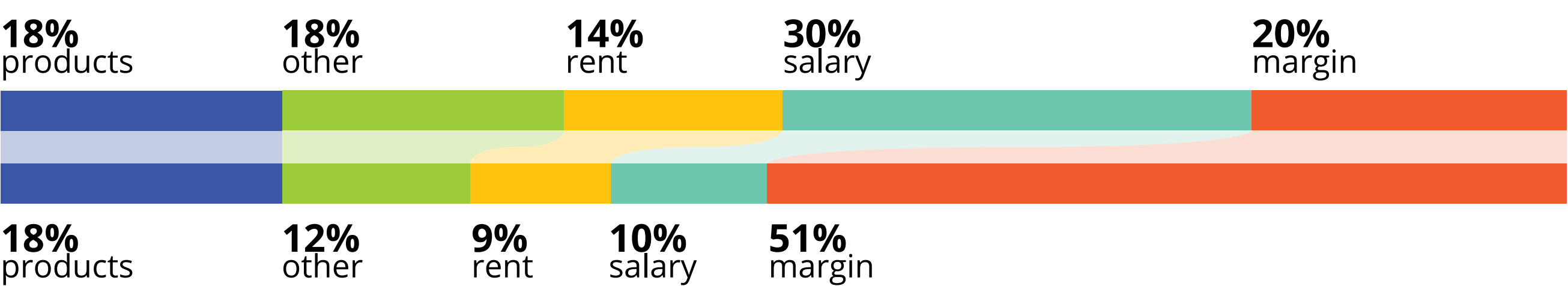


The small area
PizzaBOT works on the
area of just 3,8 square
meters and minimizes
the costs in comparison
with the traditional
pizzeria.



No staff
The total automation
and robotization of all
actions from cooking
pizza to kiosk washing.

The marginality comparison the traditional pizzeria

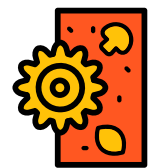


PizzaBot



The solution is to increase the trust of quality

PizzaBOT is the open-kitchen kiosk with the show and WOW-effects which always cooks the personal pizza using only the fresh products.



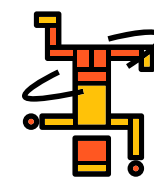
The constructor

Initially it was designed as the portion pizza for themselves. There are 288 variants of pizza to choose or the “classic” one.



The quality

The bot cooks using only fresh products before your very eyes. The robot actions are calibrated and programmed what guarantees the stability of quality.



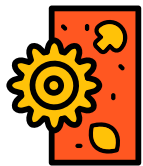
Our product: pizza + show

The whole process attracts the interest of adults and children. The robot can play the games and dance when it is “tired” of work :)



The advantage is the new marketing strategy of pizza cooking

We created pizza 2.0. It's in total for the client: comfortable package, own recipe and 100% personal for yourself beloved.



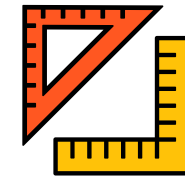
Pizza is always individual

You can create the different taste as you want at the moment because there are 4 types of dough + 4 types of sauces + 4 types of filling + 2 types of oil. Or the "classic" one is always here.



The functional package

It's convenient in one-hand use and eating even on the run. The robot will sign your pizza to not confuse it if you've made the company order.



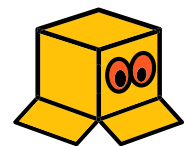
The pizza is of optimal form and size

The usual pizza is too much for 1 person and the 1 piece isn't enough. Our pizza is portioned of 20×8 sm in size and 100-200 g in weight according to the recipe.



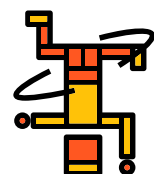
The advantage — new marketing strategy at production

We've taken the all advantages of traditional pizzeria and added modernity and technological effectiveness.



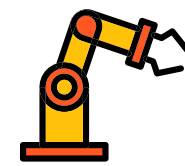
The cooking is in open kitchen

Our kitchen is alive like in restaurant, it's not the closed box. The whole process is before your very eyes. You can always see the cleanliness in the kitchen.



We entertain the guests

The kiosk is the attraction of light, sound, robot movings and interactive.



The cooking is the WOW-effect

The robot is the cook and it's unusual! The innovative cooking impresses adults and children.



Technological effectiveness of business



Modular design

The large-unit approach allows to create kiosk in different sizes and form-factors.



The online monitoring of sales and the analysis

We count everything and make a report. The intellectual system analyses and helps to predict demand and kiosk service.



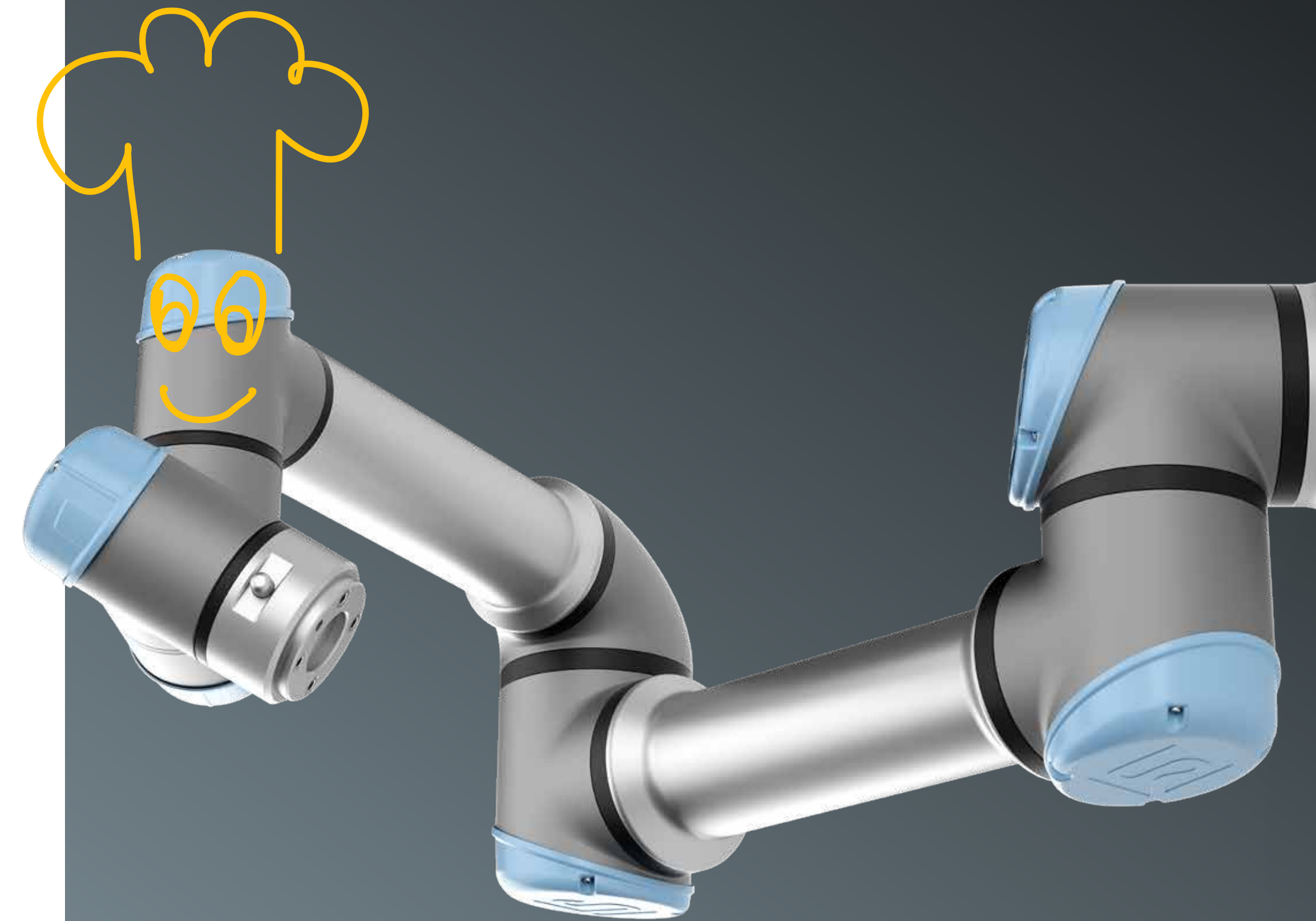
The system of semi-finished products accounting

The information systems keeps portion track, controls the expiry date of products, informs of leftovers and possible problems.



The automotive washing is inside the kiosk

Regularly the robot treats all surfaces as required, cleans the equipment according to fixed regulations.



The market



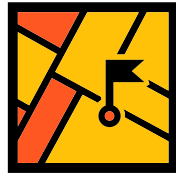
The places to launch the kiosk



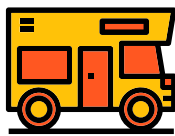
malls



cafes and restaurants



high-traffic places

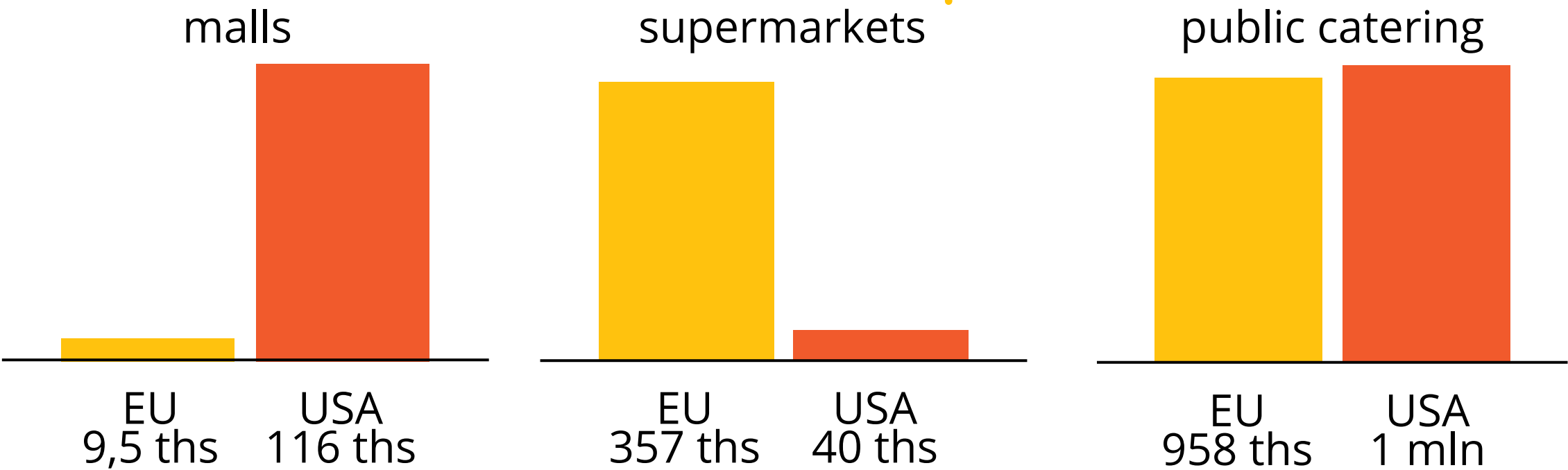


foodtrucks



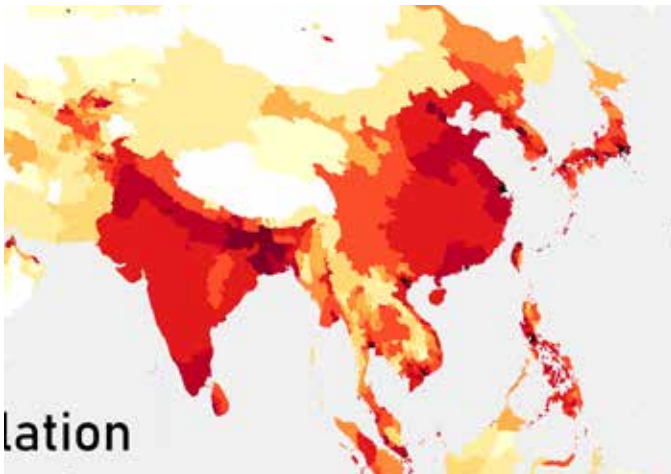
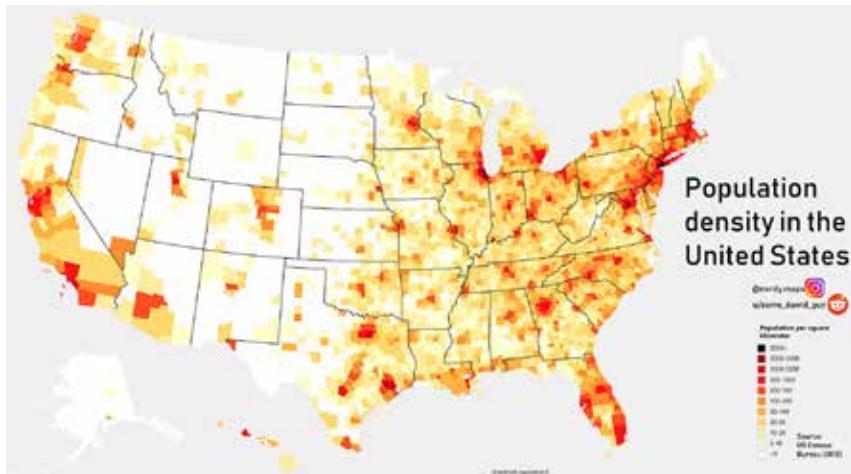
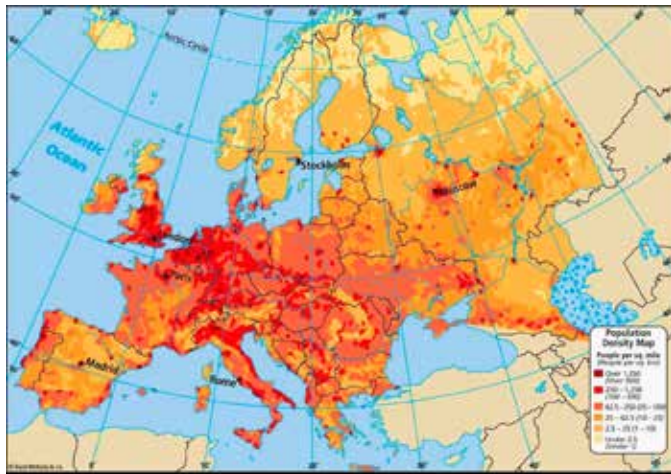
supermarkets

The potential of places to install the kiosks



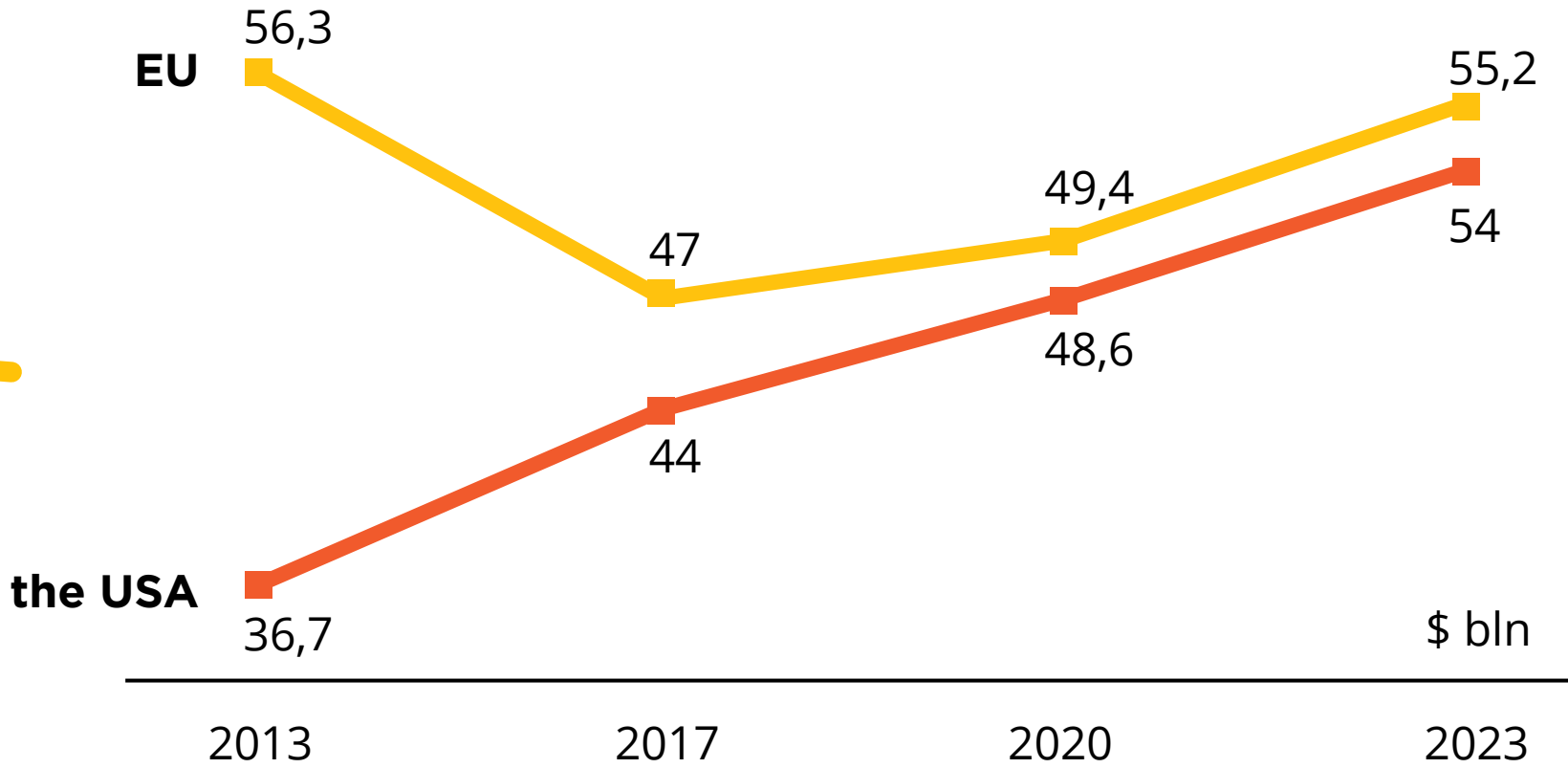
Source: statista.com

30% of Americans eat pizza once a week at least



the density of EU, the USA and Asian population
Source: chdexpert

The world pizza market in 2020 is \$155 bln



We can take over the 15% of the world pizza market in the next 7 years

The double income stream

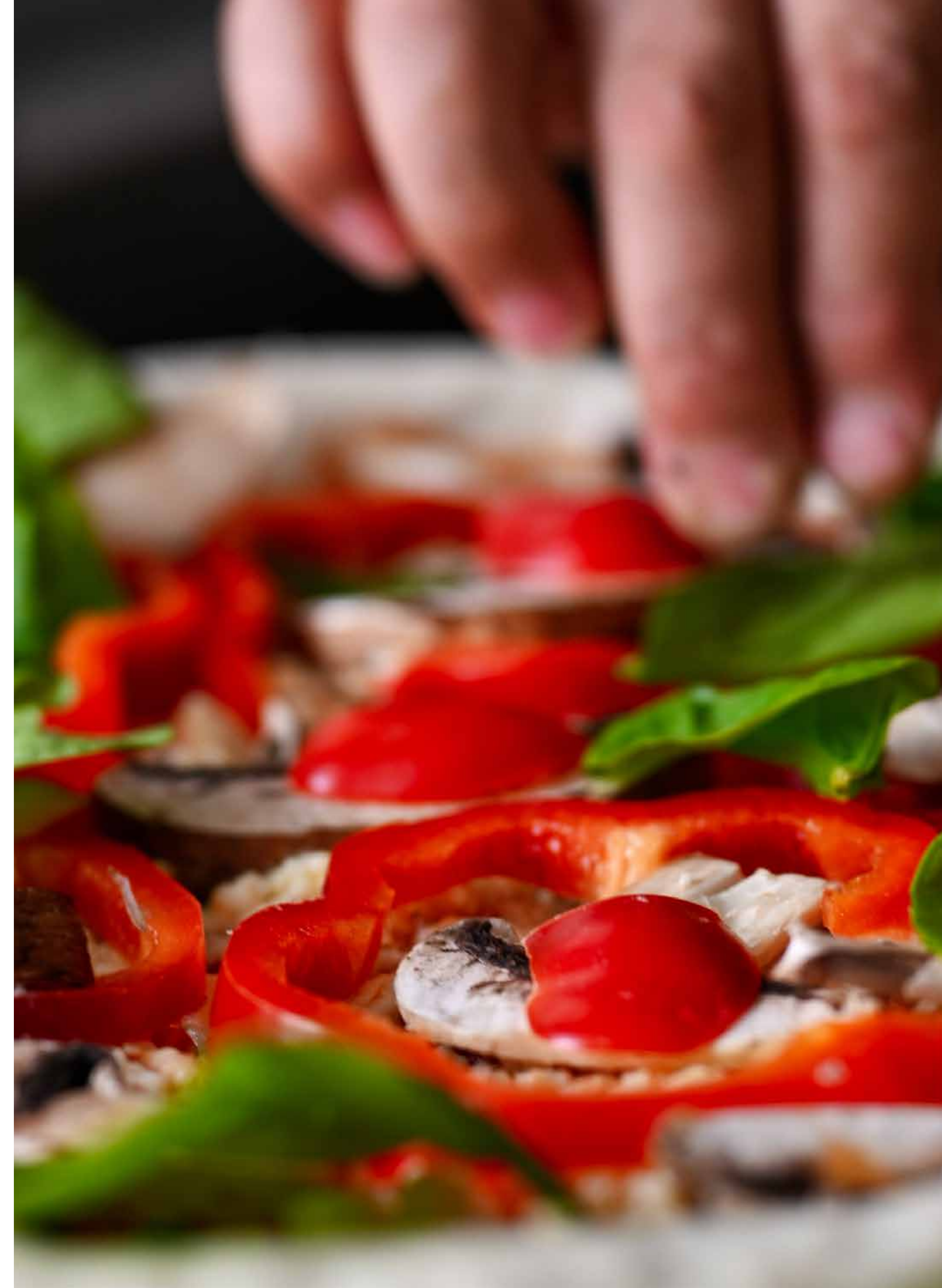
The first is from selling pizza in our own kiosks chain, the second is from the franchises which have the access to the good locations

1

**the own kiosks
chain**

2

**franchise-
partners**



The competitors

The current solutions at the market

The current solution at the market is the classic vending designed 10-20 years ago. It's a closed-type box offering a small number of recipes to choose and providing the lack of confidence in the quality and the freshness of products.



Pizza GIO



Basil Street



Smart Pizza

Newly designed

These solutions weren't popular at the time of design because there were used the old principles and approaches.



Piestro

The disadvantages of competitors

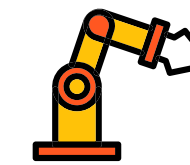


The marketing campaign

The pizza is too big for 1 person.

The choice of recipes is too few.

The package too uncomfortable to eat pizza immediately.



The black box

It's a private process of cooking.

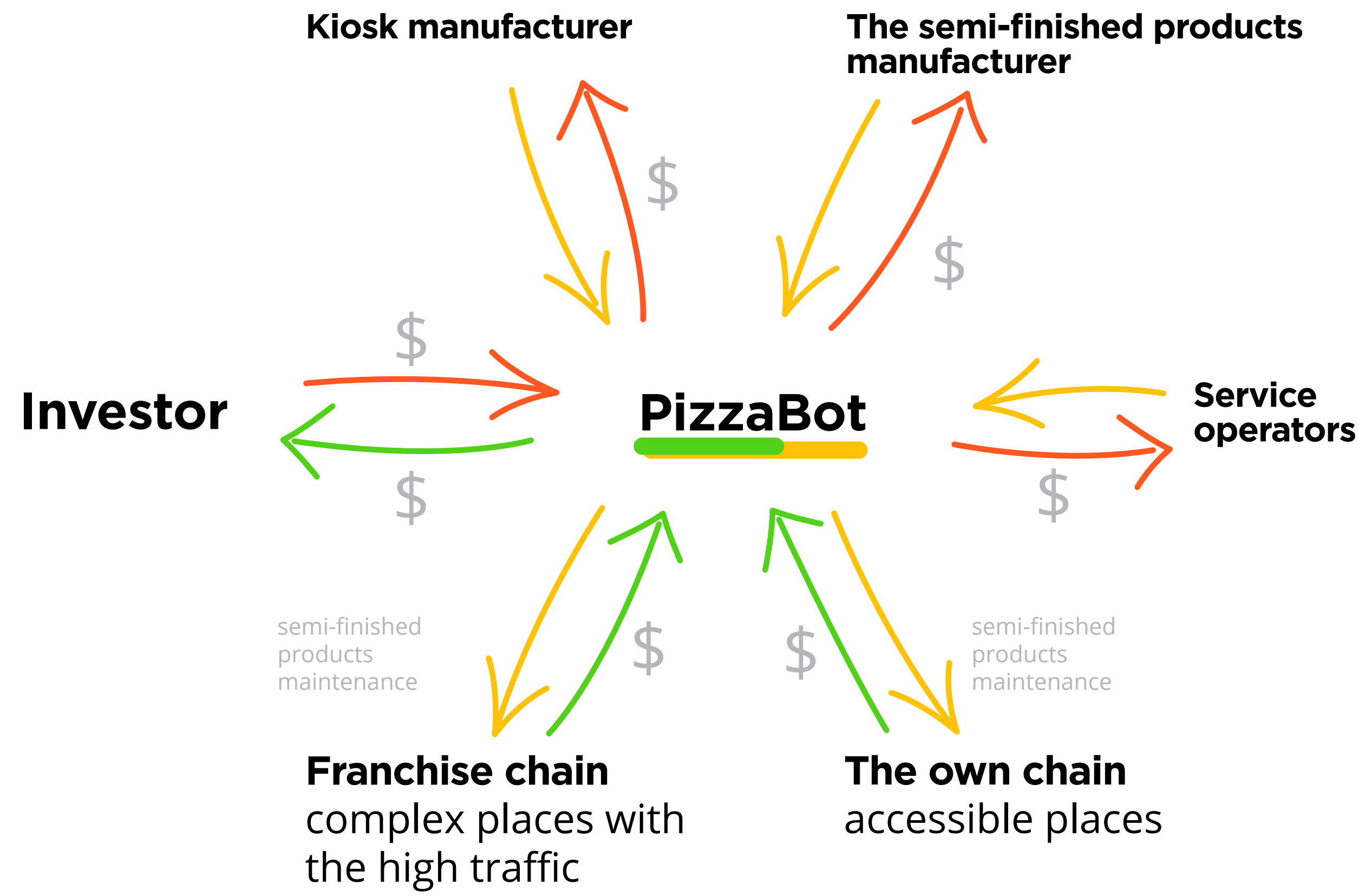
The frozen products are not of the high quality.



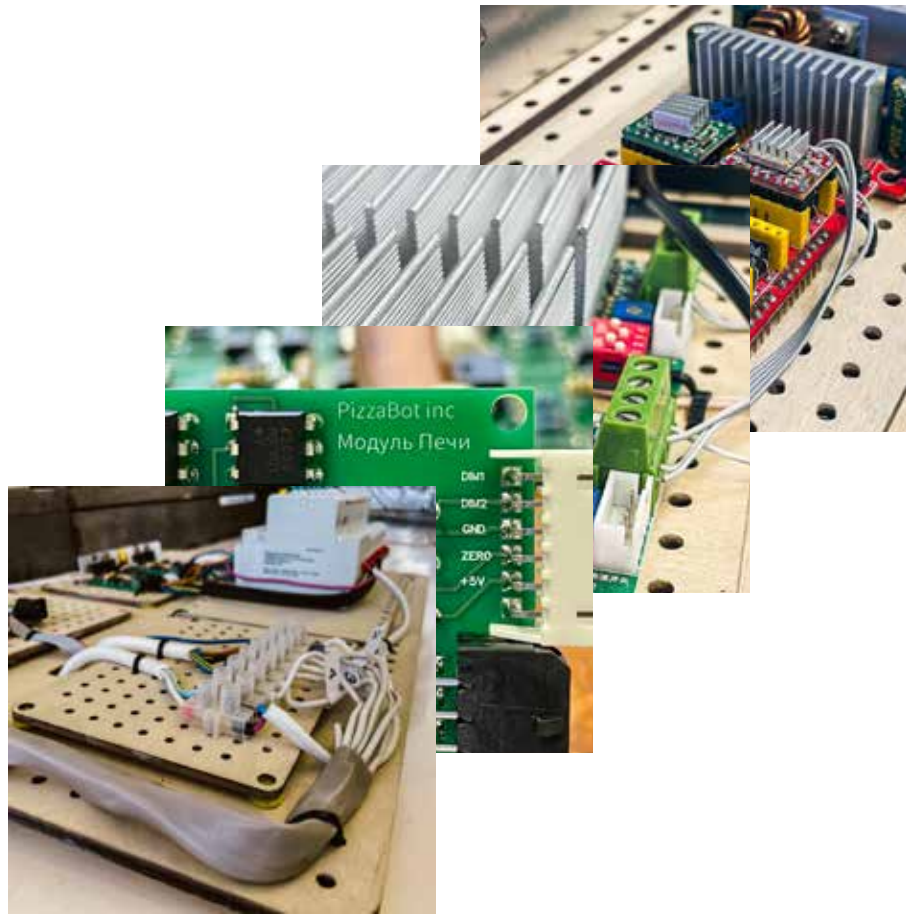
The kiosk service

It's too hard to clean inside.

Business model



Already completed



**Researching.
Generating the ideas**

04.2019

08.2019

**Wooden
prototype**

01.2020



**To start selling pizza
in the malls**

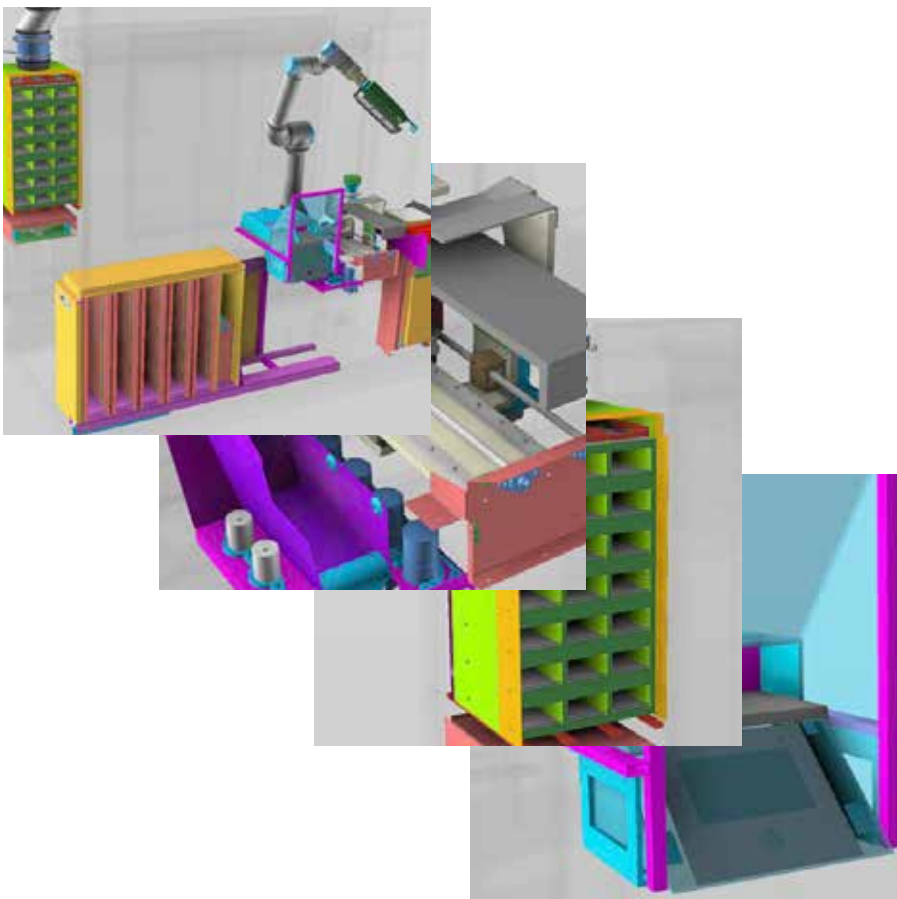


01.2021

09.2021

09.2022

Large-node design



**Assembling and setting up
the current kiosk**



**The local chain
of 10 kiosk**

The team



Alexey Kovyev
CEO
25 years of restaurant
business and government



Valery Kostarev
COO
11 years of operational roles
in restaurant business



Dmitry Lagunov
CDO
19 years of managing the
design teams



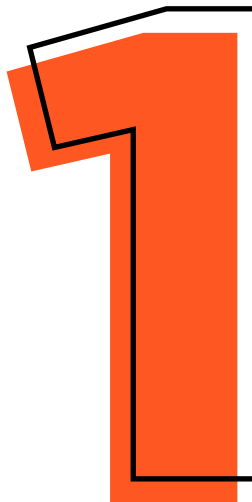
Vladislav Akmaev
CRO
clinical psychologist, the specialist
of robot and people interaction



constructors
Fusion 360
Solidworks



programmers
Python, C++
NodeJS, React
PostgreSQL



chief cook



**project
administrator**



**electrical
engineers**

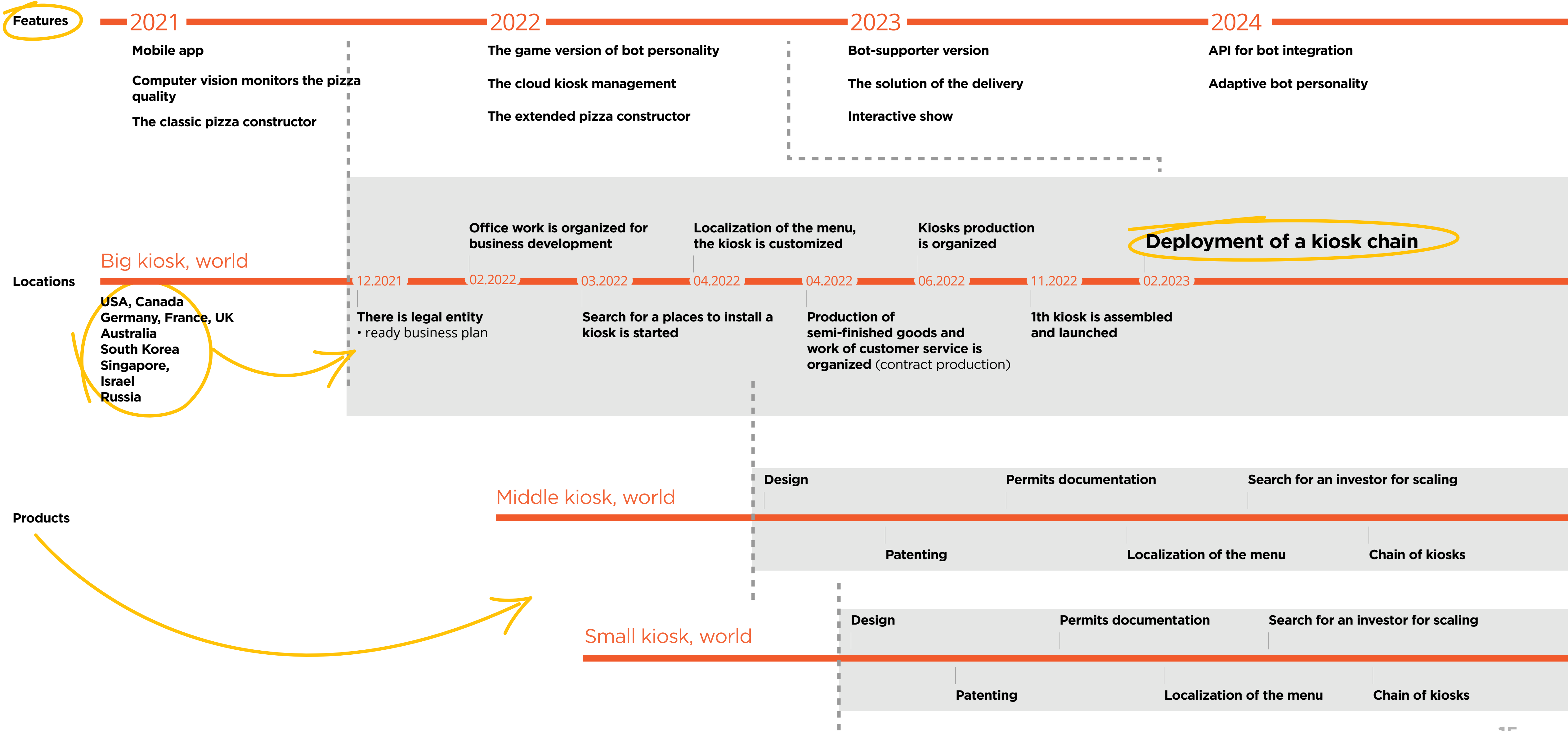


**robotics
engineer**



**the support
team (family and
friends)**

Roadmap PizzaBot



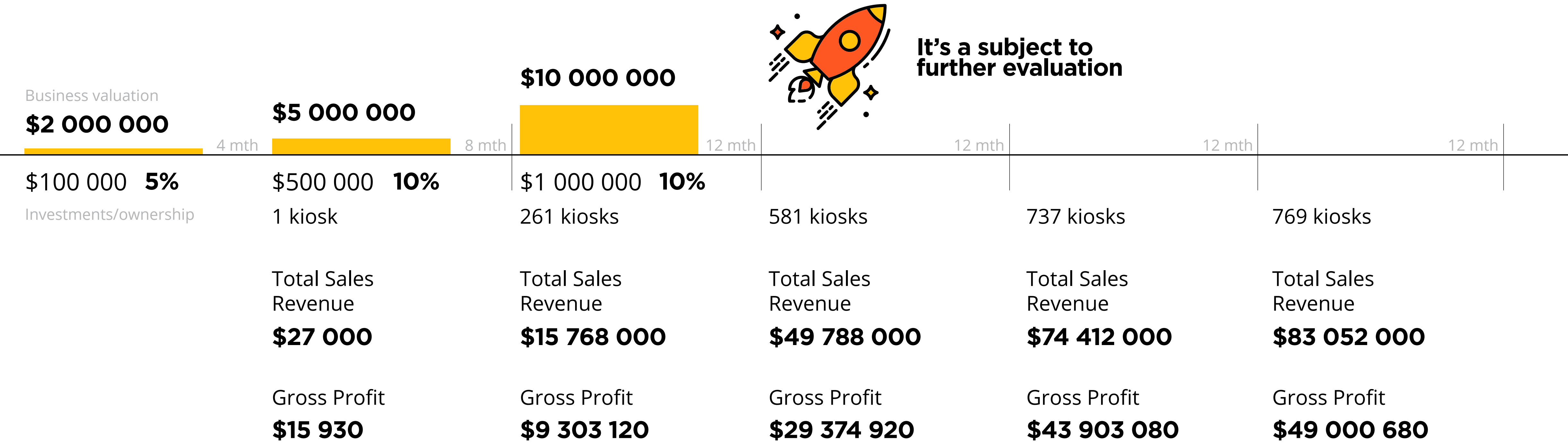
Roadmap PizzaBot. Features



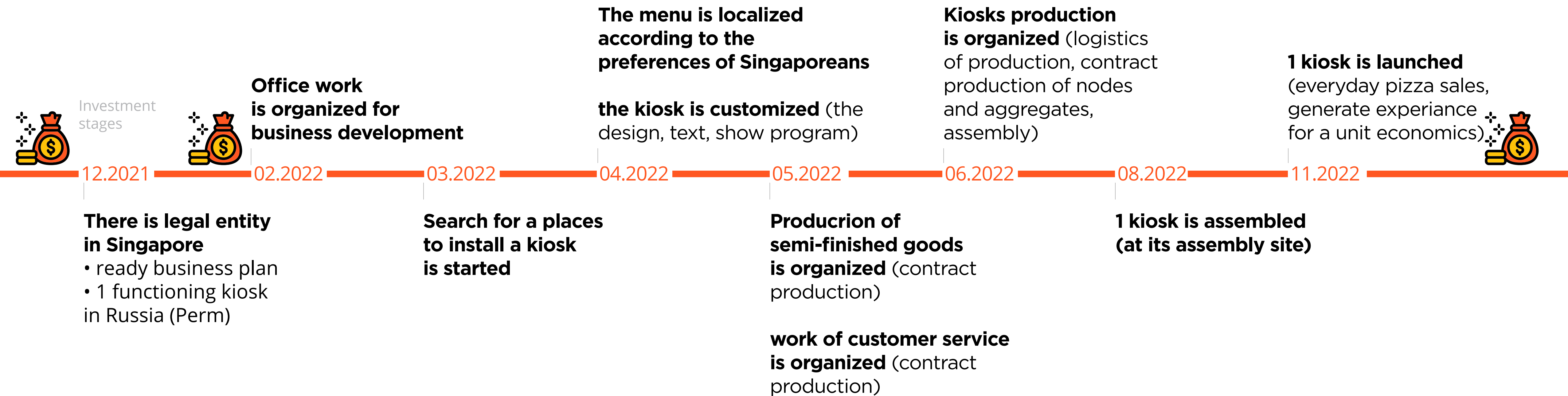
2021	2022	2023	2024
Mobile app	The game version of bot personality	Bot-supporter version	API for bot integration
Automotive wash	The interactive show	Adaptive bot personality	Launch of small-size kiosk
Computer vision monitors the pizza quality	Different bot personalities	Launch of middle-size kiosk	Kiosks chain in the EU and the USA
	Cloud kiosk management	Solution of the delivery	
	Kiosks chain in Perm	Kiosks chain in Russia	

Singapore

The business valuation growth



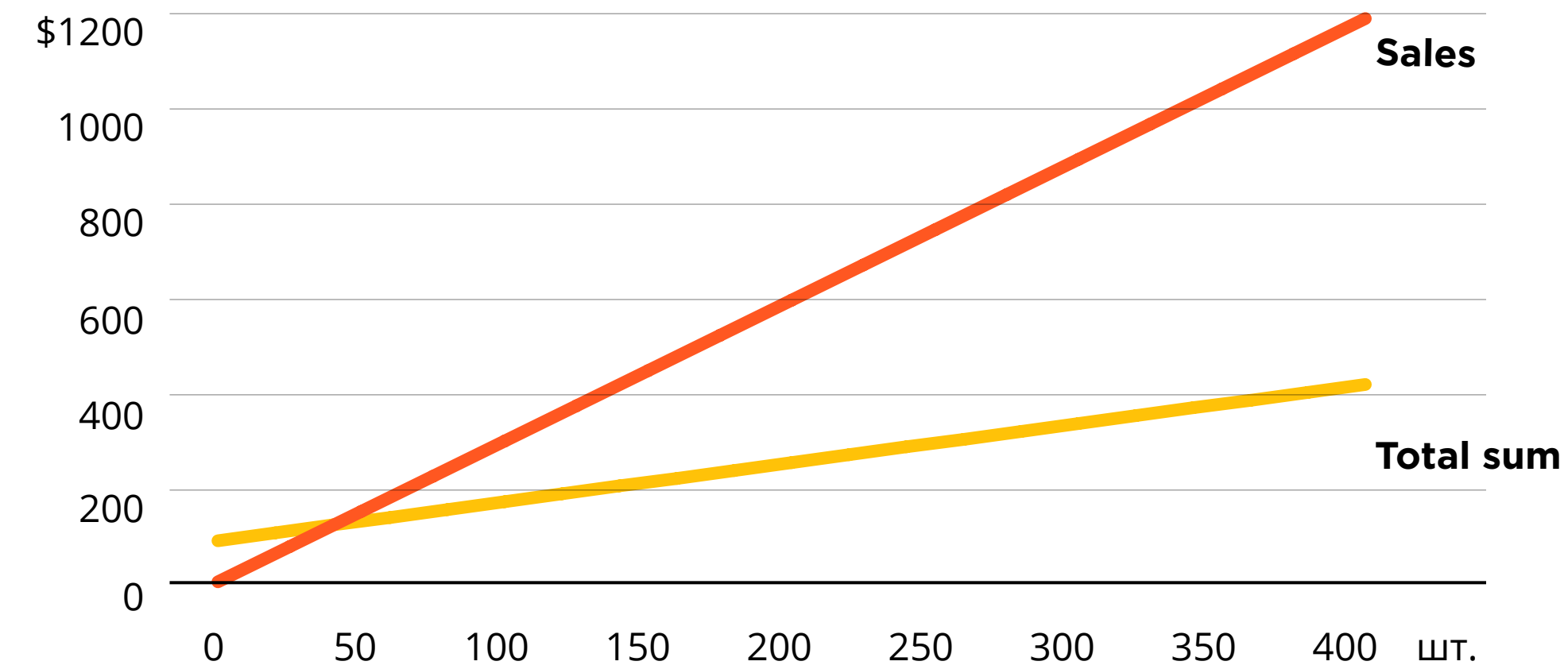
Roadmap for Singapore



The break-even point calculate of the kiosk per 1 day



Pizza cost price per products (18%)	0,54 \$
Business cost (marketing)	0,15 \$
Total variable cost per day	0,69 \$
Day rent	33 \$
Kiosk service per day	27 \$
Utility costs	9 \$
Administrative costs	9 \$
Total fixed cost per day	69 \$
Pizza price	3 \$
Units growth	20
Break-even point	30



Sales, pcs	Sales	Total sum	Revenue/loss
0	0 \$	69 \$	-69 \$
20	60 \$	83 \$	-23 \$
40	120 \$	97 \$	23 \$
60	180 \$	110 \$	70 \$
80	240 \$	124 \$	116 \$
100	300 \$	138 \$	162 \$
200	600 \$	207 \$	393 \$
300	900 \$	276 \$	624 \$
400	1 200 \$	345 \$	855 \$

Makeready objectives



Consistency	Description		Time	Resquisite qualifications
Removal of external transport sheathing	To remove the outer protective elements	External surfaces of the kiosk	30 min	Board certified specialist
Unlocking the transport position	To relock all moving elements from the transport position	All nodes	3h	Board certified specialist
To clean inside — makeready	To remove the equipment used for transport	All nodes	30 min	Board certified specialist
Sequring electricity	To plug into a socket	3,5 kW 220 volts	10 min	Board certified specialist
Calibration	To start calibration program, to test step-by-step. To configure the connection to the main server and bank	All nodes	3h	Board certified specialist
Automatic wash start	To start the automatic wash	Kiosk working area	20 min	Operator
Semi-finished products load	To load semi-finished products	Storage nodes of semi-finished products	30 min	Оператор

= 8h

Pizza is loved all around the world.

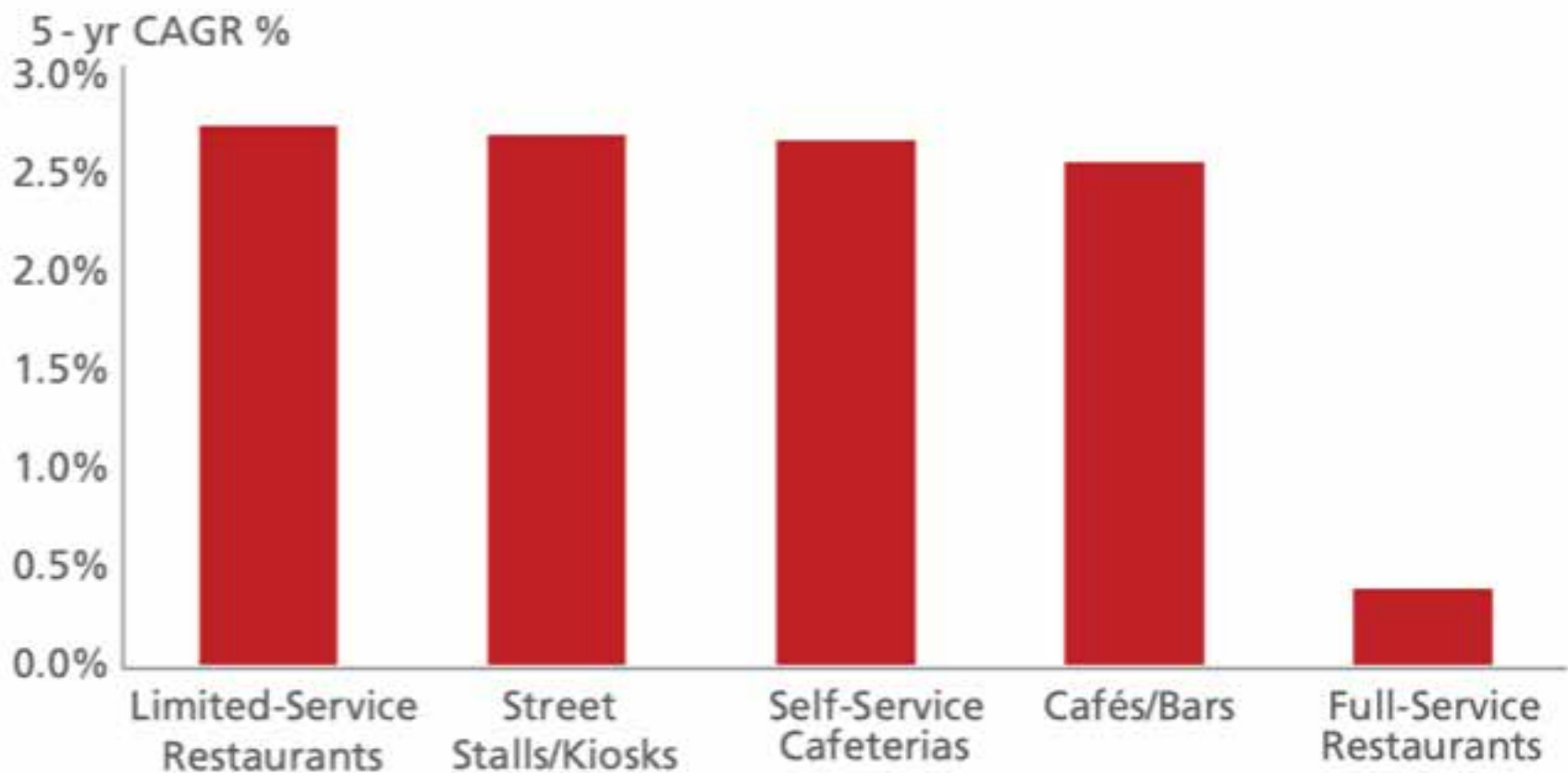
It's a fact!



Singapore's population stood at 5.69 million (June 2020). This is a multiracial and multicultural country with ethnic Chinese (76.2% of the citizen population), Malays (15.0%), and ethnic Indians (7.4%).

Pizza market in Singapore registered a positive compound annual growth rate of 4.35% during the period 2011 to 2016 with a sales value of SGD 14.85 million in 2016.

Kiosks expected to outgrow other F&B formats



Источник: Euromonitor, DBS Bank

30%
of Singaporeans eat pizza
at least once a week



Costs for launching one kiosk

	Comments	Cost
Delivery of a kiosk ready to work	The heigh is less than 500kg	\$1000
Kiosk unloading	Automatic forklift	\$500
Makeready	Board certified specialist	\$1000
Total:		\$2500



Kiosk costs (for the chain of >20 kiosks)

		per month
Sales per day	100	3000
Sales revenue		\$9000
Cost-of-sales	18 %	\$1620
Business cost (marketing + promotion)	5 %	\$450
Rent	11 %	\$990
Kiosk service	9 %	\$810
Utility costs	3 %	\$270
Administrative costs	3 %	\$270
Total costs	49 %	\$4410



Conditions to calculate PizzaBOT valuation (revenue multiples)

per 1 kiosk

\$25K

target cost for kiosk production
(production cost)

$$\text{\$9k} \times 12 = \text{\$108k} \times 10 =$$

gross income from
1 kiosk per month

gross income from
1 kiosk per year

income
multipliers

\$1.08m

business valuation
growth



Statement of profit and loss



Number of open sales points (installed kiosks)

	1st year				2nd year				3rd year				4th year				5th year				Total kiosks
	1st quarter	2nd quarter	3rd quarter	4th quarter	5th quarter	6th quarter	7th quarter	8th quarter	9th quarter	10th quarter	11th quarter	12th quarter	13th quarter	14th quarter	15th quarter	16th quarter	17th quarter	18th quarter	19th quarter	20th quarter	
Singapore	0	0	0	1	40	60	80	80	80	80	80	80	60	32	32	32	32	0	0	0	769
Cumulative total	0	0	0	1	41	101	181	261	341	421	501	581	641	673	705	737	769	769	769	769	

Gains and losses report

		1st year				2nd year				3rd year				4th year				5th year				Financial result based on the results of 5 years
		1st quarter	2nd quarter	3rd quarter	4th quarter	5th quarter	6th quarter	7th quarter	8th quarter	9th quarter	10th quarter	11th quarter	12th quarter	13th quarter	14th quarter	15th quarter	16th quarter	17th quarter	18th quarter	19th quarter	20th quarter	
▼ Total Sales Revenue		\$0	\$0	\$0	\$27,000	\$1,107,000	2 727 000 \$	4 887 000 \$	7 047 000 \$	9 207 000 \$	11 367 000 \$	13 527 000 \$	15 687 000 \$	17 307 000 \$	18 171 000 \$	19 035 000 \$	19 899 000 \$	20 763 000 \$	20 763 000 \$	20 763 000 \$	20 763 000 \$	23 047 000 \$
	Pizza sales	\$0	\$0	\$0	\$27,000	\$1,107,000	2 727 000 \$	4 887 000 \$	7 047 000 \$	9 207 000 \$	11 367 000 \$	13 527 000 \$	15 687 000 \$	17 307 000 \$	18 171 000 \$	19 035 000 \$	19 899 000 \$	20 763 000 \$	20 763 000 \$	20 763 000 \$	20 763 000 \$	223 047 000 \$
▼ Total Cost of Sales		\$0	\$0	\$0	\$11,070	\$453,870	1 118 070 \$	2 003 670 \$	2 889 270 \$	3 774 870 \$	4 660 470 \$	5 546 070 \$	6 431 670 \$	7 095 870 \$	7 450 110 \$	7 804 350 \$	8 158 590 \$	8 512 830 \$	8 512 830 \$	8 512 830 \$	8 512 830 \$	31 449 270 \$
	Product costs	\$0	\$0	\$0	\$4,860	\$199,260	490 860 \$	879 660 \$	1 268 460 \$	1 657 260 \$	2 046 060 \$	2 434 860 \$	2 823 660 \$	3 115 260 \$	3 270 780 \$	3 426 300 \$	3 581 820 \$	3 737 340 \$	3 737 340 \$	3 737 340 \$	3 737 340 \$	40 148 460 \$
	Daily kiosk maintenance	\$0	\$0	\$0	\$2,430	\$99,630	245 430 \$	439 830 \$	634 230 \$	828 630 \$	1 023 030 \$	1 217 430 \$	1 411 830 \$	1 557 630 \$	1 635 390 \$	1 713 150 \$	1 790 910 \$	1 868 670 \$	1 868 670 \$	1 868 670 \$	1 868 670 \$	20 074 230 \$
	Kiosk utility bills. Electricity, water.	\$0	\$0	\$0	\$810	\$33,210	81 810 \$	146 610 \$	211 410 \$	276 210 \$	341 010 \$	405 810 \$	470 610 \$	519 210 \$	545 130 \$	571 050 \$	596 970 \$	622 890 \$	622 890 \$	622 890 \$	622 890 \$	6 691 410 \$
	Rent of space for the installation of kiosks	\$0	\$0	\$0	\$2,970	\$121,770	299 970 \$	537 570 \$	775 170 \$	1 012 770 \$	1 250 370 \$	1 487 970 \$	1 725 570 \$	1 903 770 \$	1 998 810 \$	2 093 850 \$	2 188 890 \$	2 283 930 \$	2 283 930 \$	2 283 930 \$	2 283 930 \$	24 535 170 \$
▼ Gross Profit		\$0	\$0	\$0	\$15,930	\$653,130	1 608 930 \$	2 883 330 \$	4 157 730 \$	5 432 130 \$	6 706 530 \$	7 980 930 \$	9 255 330 \$	10 211 130 \$	10 720 890 \$	11 230 650 \$	11 740 410 \$	12 250 170 \$	12 250 170 \$	12 250 170 \$	12 250 170 \$	0
	Gross profit	\$0	\$0	\$0	\$15,930	\$653,130	1 608 930 \$	2 883 330 \$	4 157 730 \$	5 432 130 \$	6 706 530 \$	7 980 930 \$	9 255 330 \$	10 211 130 \$	10 720 890 \$	11 230 650 \$	11 740 410 \$	12 250 170 \$	12 250 170 \$	12 250 170 \$	12 250 170 \$	
▼ Total Sales and Marketing Expenses		\$9,000	\$9,000	\$16,500	\$19,000	\$157,710	373 160 \$	595 960 \$	768 760 \$	941 560 \$	1 114 360 \$	1 287 160 \$	1 459 960 \$	1 539 560 \$	1 538 680 \$	1 607 800 \$	1 676 920 \$	1 746 040 \$	1 666 040 \$	1 666 040 \$	1 666 040 \$	19 859 250 \$
	Commercial expenses (Marketing and promotion, Internet advertising)	\$5,000	\$5,000	\$10,000	\$10,000	\$19,500	136 350 \$	244 350 \$	352 350 \$	460 350 \$	568 350 \$	676 350 \$	784 350 \$	865 350 \$	908 550 \$	951 750 \$	994 950 \$	1 038 150 \$	1 038 150 \$	1 038 150 \$	1 038 150 \$	11 145 150 \$
	Kiosk installation costs	\$0	\$0	\$0	\$2,500	\$100,000	150 000 \$	200 000 \$	200 000 \$	200 000 \$	200 000 \$	200 000 \$	200 000 \$	150 000 \$	80 000 \$	80 000 \$	80 000 \$	80 000 \$	0 \$	0 \$	0 \$	1 922 500 \$
	IT support of the kiosk chain			\$2,500	\$2,500	\$5,000	5 000 \$	5 000 \$	5 000 \$	5 000 \$	5 000 \$	5 000 \$	5 000 \$	5 000 \$	5 000 \$	5 000 \$	5 000 \$	5 000 \$	5 000 \$	5 000 \$	5 000 \$	85 000 \$
	Administrative costs of managing the kiosk chain	\$4,000	\$4,000	\$4,000	\$4,000	\$33,210	81 810 \$	146 610 \$	211 410 \$	276 210 \$	341 010 \$	405 810 \$	470 610 \$	519 210 \$	545 130 \$	571 050 \$	596 970 \$	622 890 \$	622 890 \$	622 890 \$	622 890 \$	6 706 600 \$
▼ Total Research and Development Expenses		\$75,000	\$75,000	\$75,000	\$125,000	\$1,075,000	1 575 000 \$	2 075 000 \$	2 075 000 \$	2 075 000 \$	2 075 000 \$	2 075 000 \$	2 075 000 \$	1 575 000 \$	875 000 \$	875 000 \$	875 000 \$	875 000 \$	75 000 \$	75 000 \$	75 000 \$	20 750 000 \$
	Kiosk adaptation costs (taste preferences, visuals, Bot personalities)	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	75 000 \$	75 000 \$	75 000 \$	75 000 \$	75 000 \$	75 000 \$	75 000 \$	75 000 \$	75 000 \$	75 000 \$	75 000 \$	75 000 \$	75 000 \$	75 000 \$	75 000 \$	1 500 000 \$
	Kiosk manufacturing costs	\$0	\$0	\$0	\$50,000	\$1,000,000	1 500 000 \$	2 000 000 \$	2 000 000 \$	2 000 000 \$	2 000 000 \$	2 000 000 \$	2 000 000 \$	1 500 000 \$	800 000 \$	800 000 \$	800 000 \$	800 000 \$	0 \$	0 \$	0 \$	19 250 000 \$
▼ Total (General, investment costs, Adminstrative) Exp		\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	25 000 \$	25 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	825 000 \$
	Business setup costs in Singapore	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	25 000 \$	25 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	50 000 \$	825 000 \$
▼ Total Operating Expenses		\$109,000	\$109,000	\$116,500	\$180,070	\$1,711,580	3 091 230 \$	4 699 630 \$	5 783 030 \$	6 841 430 \$	7 899 830 \$	8 958 230 \$	10 016 630 \$	10 260 430 \$	9 913 790 \$	10 337 150 \$	10 760 510 \$	11 183 870 \$	10 303 870 \$	10 303 870 \$	10 303 870 \$	32 883 520 \$
	Operating Expenses	\$109,000	\$109,000	\$116,500	\$180,070	\$1,711,580	3 091 230 \$	4 699 630 \$	5 783 030 \$	6 841 430 \$	7 899 830 \$	8 958 230 \$	10 016 630 \$	10 260 430 \$	9 913 790 \$	10 337 150 \$	10 760 510 \$	11 183 870 \$	10 303 870 \$	10 303 870 \$	10 303 870 \$	132 883 520 \$
▼ Income from Operations		-\$109,000	-\$109,000	-\$116,500	-\$153,070	-\$604,580	-364 230 \$	187 370 \$	1 263 970 \$	2 365 570 \$	3 467 170 \$	4 568 770 \$	5 670 370 \$	7 046 570 \$	8 257 210 \$	8 697 850 \$	9 138 490 \$	9 579 130 \$	10 459 130 \$	10 459 130 \$	10 459 130 \$	30 163 480 \$
	Profit before tax	-\$109,000	-\$109,000	-\$116,500	-\$153,070	-\$604,580	-364 230 \$	187 370 \$	1 263 970 \$	2 365 570 \$	3 467 170 \$	4 568 770 \$	5 670 370 \$	7 046 570 \$	8 257 210 \$	8 697 850 \$	9 138 490 \$	9 579 130 \$	10 459 130 \$	10 459 130 \$	10 459 130 \$	90 163 480 \$
▼ Other Income (investments)		\$500,000	\$0	\$0	\$0	\$1,000,000	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	1 500 000 \$
	Outside Investment Rounds for Kiosk Installation	\$500,000	\$0	\$0	\$0	\$1,000,000	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	0 \$	1 500 000 \$
▼ Total		\$782,000	\$173,000	\$49,000	-\$90,640	\$803,270	1 179 390 \$	2 418 360 \$	4 758 930 \$	8 226 100 \$	12 794 870 \$	18 465 240 \$	25 237 210 \$	33 159 980 \$	41 927 830 \$	51 066 320 \$	60 645 450 \$	70 665 220 \$	81 204 350 \$	91 663 480 \$	102 122 610 \$	39 913 480 \$
	Profit of the company directed to the manufacture of kiosks	\$0	\$0	\$0	\$50,000	\$0	1 500 000 \$	2 000 000 \$	2 000 000 \$	2 000 000 \$	2 000 000 \$	2 000 000 \$	2 000 000 \$	1 500 000 \$	800 000 \$	800 000 \$	800 000 \$	800 000 \$	0 \$	0 \$	0 \$	18 250 000 \$
	Cash flow	\$391,000	-\$109,000	-\$116,500	-\$153,070	\$395,420	-364 230 \$	187 370 \$	1 263 970 \$	2 365 570 \$	3 467 170 \$	4 568 770 \$	5 670 370 \$	7 046 570 \$	8 257 210 \$	8 697 850 \$	9 138 490 \$	9 579 130 \$	10 459 130 \$	10 459 130 \$	10 459 130 \$	
	Cumulative cash flow	\$391,000	\$282,000	\$165,500	\$12,430	\$407,850	43 620 \$	230 990 \$	1 494 960 \$	3 860 530 \$	7 327 700 \$	11 896 470 \$	17 566 840 \$	24 613 410 \$	32 870 620 \$	41 568 470 \$	50 706 960 \$	60 286 090 \$	70 745 220 \$	81 204 350 \$	91 663 480 \$	91 663 480 \$

Thank for your attention!

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