



## **IOT** Storci, the challenge of the future tied to the tradition

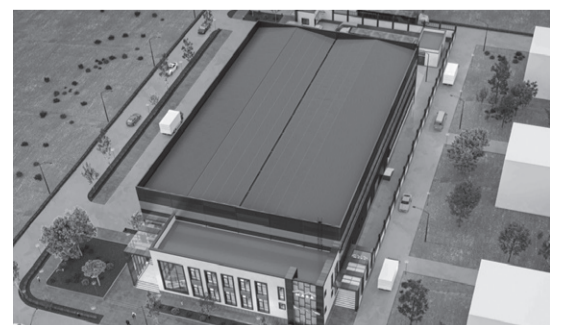
**MANCINI PASTIFICIO  
AGRICOLO**



**STORCI  
EUROPROMEC**



**PASTIFICIO  
SHAHRI ZEBOI MO LTD**



# Storci Europromec

Dry pasta  
automation at the  
highest levels



*“Automation – use of a set of technical means and procedures which, by appropriately acting on particular devices, ensure the automatic performance of a specific process. (translation from Vocabolario Treccani)”*

Automation comes to the aid of man’s work, avoiding the alienating activity typical of certain production movements.

One might ask how much automation really affects pasta production today, what improvement automated handling of the product provides. It is obviously crucial for pasta factories to make pasta well and optimise production times, freeing pasta makers from the burden of other manual operations. Consequently, it is necessary to introduce automation systems, at various levels.

For the movement of trays and sticks in the pasta production process, there are several automatic machines that facilitate the operators’ activities and reduce their frequency, giving them more time to devote to the care of pasta production. To reach this goal, Storci has formed a partnership with Europromec, a company with long experience in the design and construction of machines for the food sector (plants for pasta factories, elevators for transporting pasta and other granular products, stripping-cutting machines for spaghetti and special long pasta), animal

feed and biscuit factories. Thanks to this partnership, innovative and technologically advanced solutions for automation in pasta factories are provided. Storci/Europromec basically offers a differentiated range of machinery for the automation of trays and sticks, very easy to use and greatly performant. Among these machines there is the new tray **emptying machine TT 010** (Trays Turner), a useful solution for those who wish to automate the short pasta production process. It is a machine positioned between the machines in the final drying phase and the packaging machine for short pasta. It feeds the packaging machines with pasta from the trays, in an automatic cycle.

Suitable for high production rates, the pasta tray emptying machine has several special features, first and foremost a ‘soft’ tray-overturning action that prevents the most delicate pasta shapes, such as pacchero, from breaking.

The structure is made of tubular steel with doors to access the loading/unloading stations and no mechanic parts to be lubricated; it has a trays handling system with no slithering between trays, which guarantees a longer service life. It consists of three stations: loading, intermediate and storage. The machine is fed by a trolley filled with trays containing dry pasta; the only operation the operator has to perform is to insert the trolley to

be emptied into the machine at the start of the cycle and withdraw the empty trolley at the end of the cycle. The machine repeats the cycle automatically. To complete the range for the automatic handling of trays and sticks, there are also trays stackers and unstackers, trays feeding machines, sticks loading robots, robots for stripping-cutting machines, the latter with weighing system too. Solutions for all requirements.



**Emptying machine  
TT010 (Trays Turner)**  
**Technical specifications:**  
**Dimensions: 4600x1150x3000**  
**Weight: 1300 Kg**  
**Production: up to 8 trays per minute**

Still together  
for an  
excellent pasta

**M**  
MANCINI  
PASTIFICIO  
AGRICOLO

Mancini Pastificio Agricolo is a jewel, one of a kind, surrounded by the Marche countryside and its approach towards “zero km food” has become its trademark, cultivating and using only its own wheat for the pasta they make. We interviewed Massimo Mancini, owner of the Pastificio, who told us why, when he decided to expand the production with a line of long dry pasta, **model Long 400**, the choice fell again on Storci.

“There is a company which produces pasta in the middle of a wheat field”.

**What is your philosophy between present and past times?**

Our philosophy has always been to give value to what we do in the countryside, with a great care for our wheat. The outcome of this enhancement is our “quality pasta”. We increase in value our family’s history and territory through our work.

**Please tell us how you got to know Storci, your first encounter and something particularly significant that you still remember.**

We met in 2005, at that time, we had some thoughts of “making pasta”. An article about us was published in a magazine in the food sector. That one was the occasion to draw some visibility as we exposed our idea of creating a pasta factory. After some weeks, we got a call from Michele Storci and kept in touch as he understood the importance of our project. We produced our first pasta on March 17, 2010, with a Storci line, more precisely an **Omnia line 600/500**, for the production of dry short, long and special shapes pasta.

# STORCI & PASTIFICIO MANCINI



**Why have you favoured Storci again for your dry long pasta line? What were you looking for in terms of technology and innovation? Why did you choose us again?**

We have reached a very high-quality level; this is also due to Storci technology. Now, we would like to keep it.

We are not searching for new paths; we want confirmation that what we are following is the best direction.

Storci has always proved to be proactive and able to solve any problems.

They have always been at our side; the proof of what I’m saying is the mutual esteem and synergy we have with Simone Franchi (Storci Service Dept manager).

We are about to enlarge and triple the production areas and hope to finish this significant renovation within the summer of 2023.

New markets and challenges are waiting for us.

With Storci, we feel safe.



# IOT

Storci

## Internet Of Things

Our everyday life is full of systems that continuously connect us with everything and everyone.

Why should companies not introduce these connections meant to be a mean of protection and help as well as improvement and control?

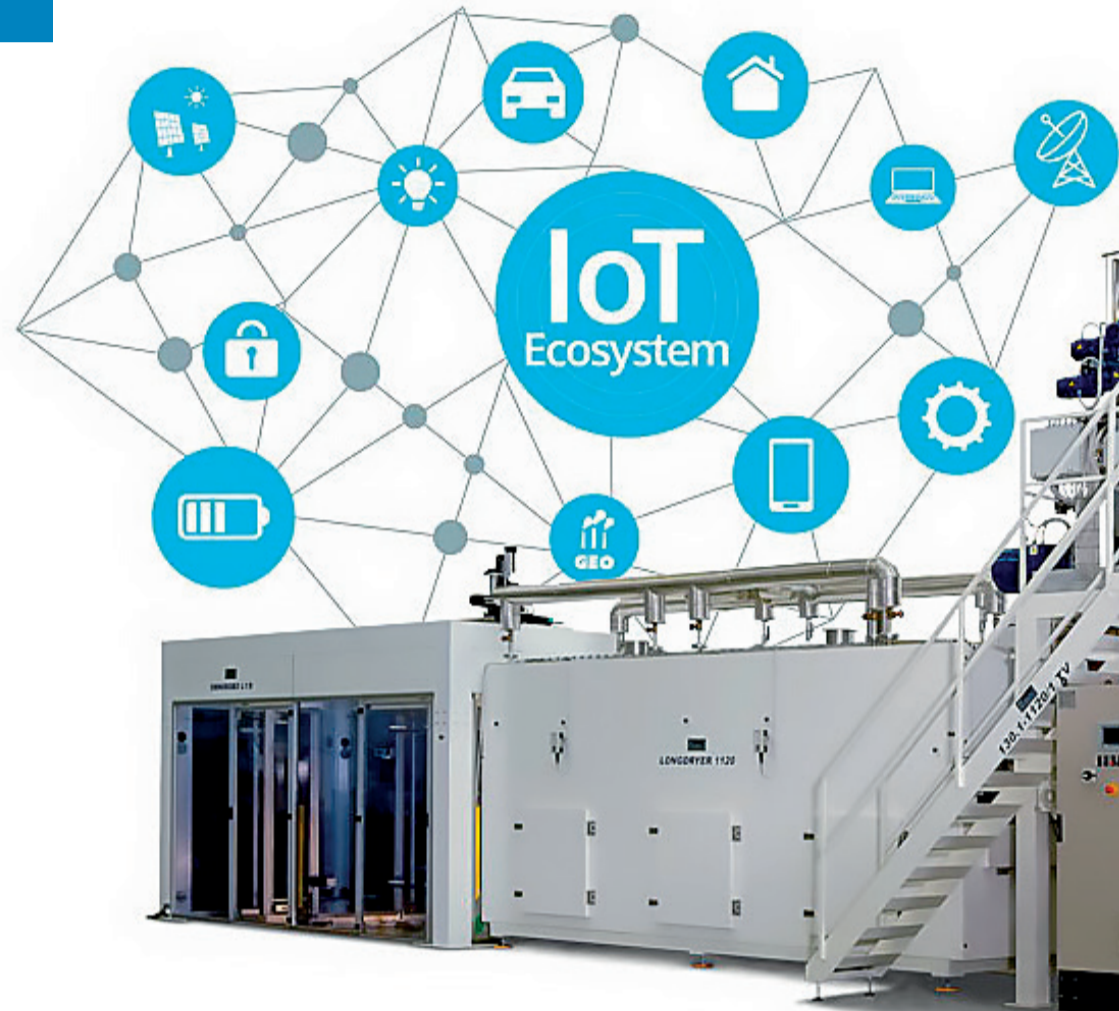
A brief talk with Simone Zardi, Storci IOT development manager (see picture left side on the bottom), the new division born in 2021, with a specific target that is to improve this strategic department and essential service offered by our company.

Zardi explains us how the framework of IoT is managed by his team.

“The basic concept is simple indeed” Zardi says” my team and I deal with the connection of machines to Storci’s cloud, file the data in a safe database, adapt the information collected from the machines in usable screens and develop algorithms



## THAT'S WHY PASTA FACTORIES CANNOT DO WITHOUT IT ANYMORE.



able to help both the pasta maker and our technicians understand the status of the machines and their possible irregularities, streamlining the process and preventing from stoppings”.

### Application onto Storci machines

All major companies have understood that the production process can greatly benefit from a massive and effective data collection.

By analysing in detail every change that has taken place in the process, it is possible to perceive the critical aspects, giving our customers an awareness of where to intervene promptly, in terms of time and resources too.

Thanks to an edge device placed onto the electrical panels of the machines, we lay the foundation of our IoT framework.

The edge device allows us to constantly monitor the status of the machines and send the collected data to the Storci cloud. High reliability and security of the system are guaranteed by using a secure connection and encrypting the data.

Data are read by the PLC of the machines and a series of sensors that we have applied directly on the machines to monitor all the most important parameters.

For example, several temperature and humidity probes have been added to look for an interaction between the external environment and the microclimate created inside a dryer.

Another case is the installation of inverters that provide information about the motor and can control many other parameters.

Furthermore, by retrieving data from the machines 24/24, the system can supervise what is happening in the pasta factory, even when no one is on site, for instance during night drying.

### Web App

All that above mentioned is, however, useless if you do not have a clear and well-organised interface.

With the work of in-house programmers, we can guarantee a site/APP to access all your plant data.

This app is available for all desktop and mobile devices, depending on where you want to view the data. The app

consists of summary pages of the various processes to view the current and historical graphs divided per production. It provides a detailed list of alarms – that can also be notified – on the line or a page for consulting historical alarms.

### In the cloud

Here lies the nucleus of the system. Thanks to our collaboration with PTC and the use of a specific software, we guarantee an outstanding level of service.

This software was created for the purpose of managing industrial machines

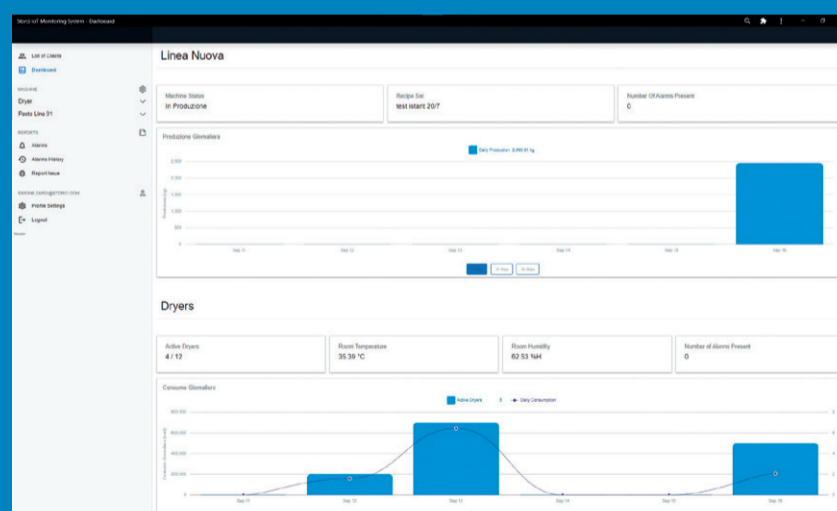
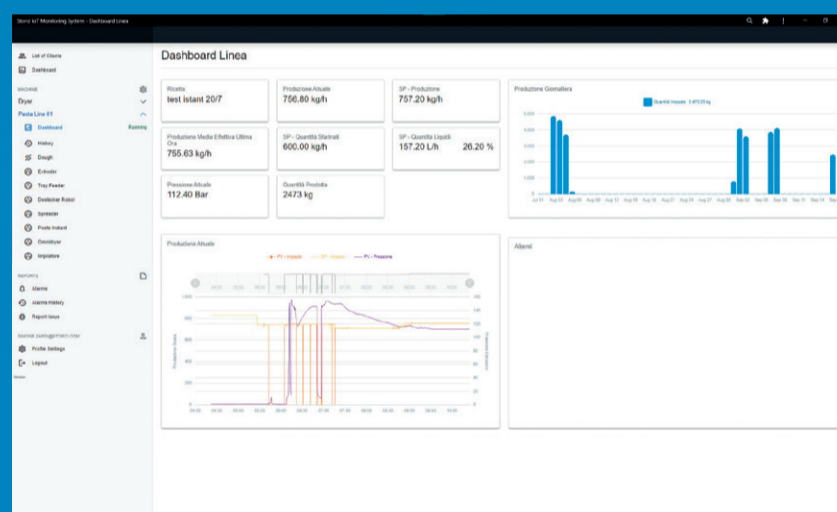
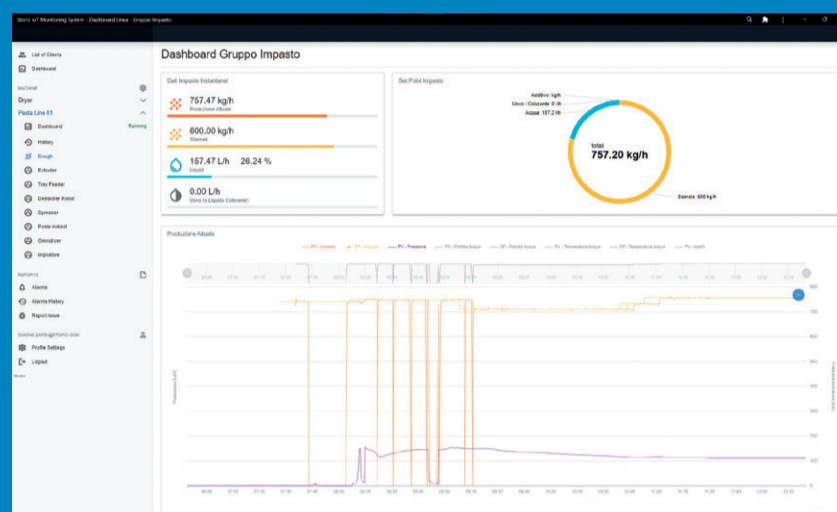
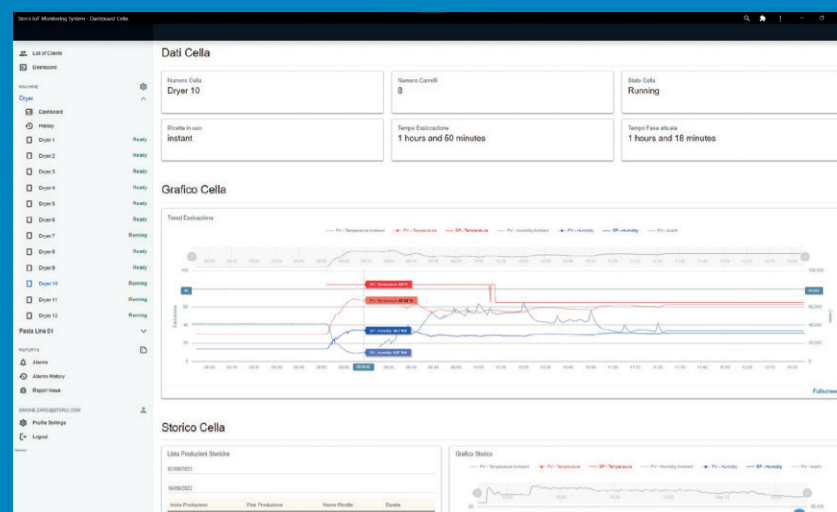
and is to date one of the most relevant software packages on the global IoT scene.

It can create a virtual model of the machine installed at the customer's premises, so that data can be organized as efficiently as possible.

Various algorithms can be created on the model, which automatically run to check the status of the machines, consequently informing the various operators as quickly as possible via alerts on their device or by e-mail, daily or weekly. The software also takes care of storing the data in the associated database.

One of the main advantages of having a database in the cloud is that it can be consulted all over the world by authorised persons, as long as an internet connection is available. Another advantage is the greater historical capacity compared to a PLC. The PLC operates with instantaneous data, while the history part is left out. Our database, instead, can analyse productions going back months or years, giving you the possibility to compare and improve any changes you have made to your recipes.

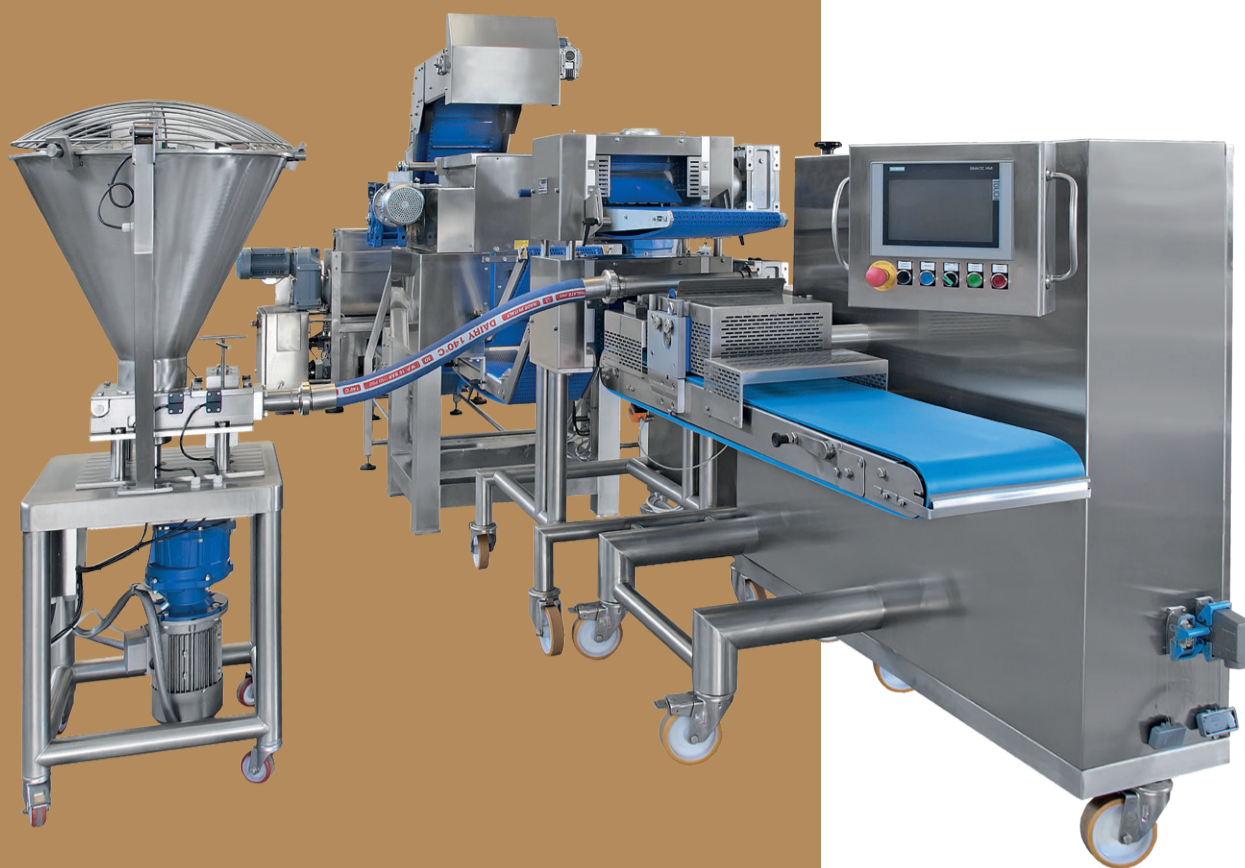
The whole system is constantly being updated and new functions will be added in the coming months. Moreover, as a Storci customer, you can improve a feature over another, as you like, guaranteeing the pasta maker the best possible support.



**“The above pics show some screenshots of the WEB APP available for customers.**

**The pages are developed to be easily understood at first sight to have a clear picture of the state of the machines.”**





Omnia line for fresh pasta, for continuous production of laminated dough, single and double sheet ravioli with any type of filling

## LINES AND MACHINERY FOR FRESH PASTA

### Technologies and innovative systems for the small, medium and large industry

Storci's experience in fresh pasta dates back to the 1980s, when Anzio Storci was still President of Parmasei.

Those were the years of the American dream and it was there that the first shuttling containers system for tortellini, both dough and filling, designed by Anzio Storci, was installed. The plant automated, with fully automatic feeding, 28 tortellini forming machines and 28 sheeters, installing 4 lines of 7 machines each. It was such an innovative project that it changed the large industry market for the next decade.

Today, shuttling containers are everywhere, but when they were first designed, they were extraordinarily ahead of their time.

In addition to finding an innovative solution to a long-standing problem, it was introduced the industrial vision of this sector that was then characterized by a great deal of manual work, adding machines upon machine, although reliability, quality and economy had already been pillars for years.

Over the years, Storci has always been the protagonist of important innovations in the sector, such as the **Vacuum Sheeter®**, the **Beltmix®** static dough system, the use of peek netting to avoid leaving marks on the product during pasteurization, etc. Innovations that characterise all our

fresh pasta plants in Italy and around the world. Today, our production range starts with plants with smaller hourly capacities than in the past, with multiformat plants whose production ranges from 150 to 600 kg/h of rolled pasta, single sheet cappelletti and double sheet ravioli also with soft fillings.

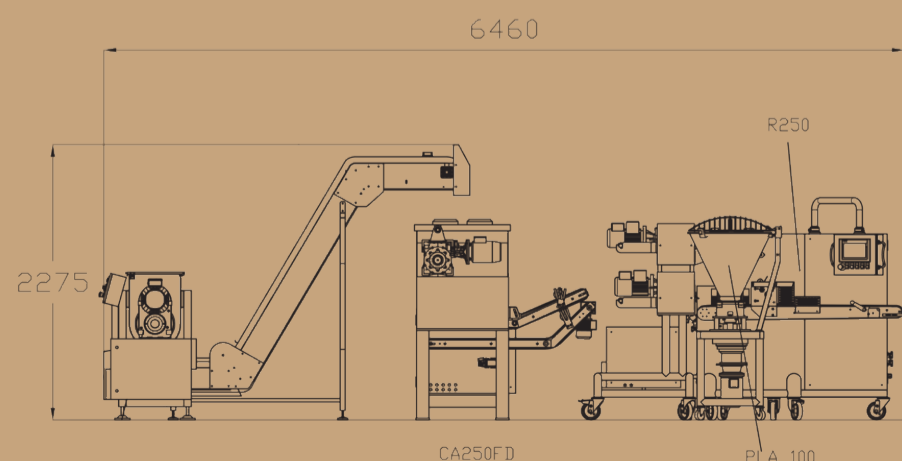
The latest plant built features a **Premix®** unit, our alternative to kneading tanks with manual dosing. It is a patented pre-mixing system for raw materials, complete with a volumetric dosing unit for flour and an electronic dosing unit for liquid ingredients, to produce different types of pre-mixing automatically, flexibly, and continuously.

The line is then equipped with a **VSF 250.2 dough sheeter** with two 250 mm outlets.

In this specific machine, the two outlets can be used for double-sheet ravioli but one of them can be inhibited when producing single-sheet or laminated pasta products. This is followed by the latest-generation **ravioli forming machine RS 250**, suitable for handling all kinds of fillings, fed by a lobe pump, comprising two laminating units with separate drives, with independent bases for easy cleaning.

For rolled dough, a **CAL 400.1 calibrator** mounted on wheels is placed in front of the sheeter, which can bring the sheet down to 0.5mm. The calibrator is equipped with a loop control system. In this way a single line can produce both laminated and filled products.

All our forming machines have been equipped with the latest technological innovations, from **PLC** control panels, to the possibility of making soft fillings, to moulds mounted on independent structures on wheels to make size changeover very easy, to maintain very high safety standards and to be able to easily sanitise all parts in contact with dough or fillings. These and many other innovations will be at disposal of our customers, who will be able to test the response of our machinery with their raw materials in our new research centre, the **Storci Fresh Pasta Laboratory**.



## IN TAJIKISTAN ANOTHER SUCCESSFUL STORY

We interview Mr Parviz Rahimov, general manager for the implementation of the pasta factory project of Shahri Zeboi MO Ltd, a company in Tajikistan we are happy to number among our new customers.

Could you tell us about your company? How come did you decide to invest in the pasta sector?

Shahri Zeboi Mo LTD is an investment company headquartered in the Republic of Tajikistan. It acts as a leader in several business sectors, such as building, real estate, food transformation and trading. We in Shahri Zeboi Mo LTD strongly embrace the morals established by the founder of Peace and National Unity of Tajikistan, the country's leader, the President Mr Emomali Rahmon.

Pasta production is an essential part of the food security



## Storci & Shahri Zeboi

strategy of our country; that is the reason for investing in this sector.

How did you get to know us? Why did you choose our company for your dry pasta production?

We searched all over the world and contacted several companies. Storci has been the only one that met all our criteria and expectations. The basic idea was to install just one line to process different pasta shapes, both short and long.

Another crucial point was to start our activity at its best, keeping the costs as low as possible. And that has been feasible with Storci.

Which technological and innovative characteristics made you choose the Storci Omnia line you have just bought?

Omnia is the ideal solution to produce a wide range of shapes with a minimum footprint, still maintaining very high quality. It is like having two production lines in the space of one.

The plant has unique versatility features, innovative and technological solutions that made us favoured Storci over other suppliers, convinced of having made the winning choice to enter the pasta market with the maximum competitiveness.





# QUADRUCCI FORMING MACHINE BY STORCI

The most innovative on the market

Equipped with protections and microswitches, which guarantee a maximum safety production. Cutting rollers synchronised with sheet feed advancing speed. Equipped with wheels

Perhaps not everyone knows that quadrucci is a speciality in our country coming from the trimmings and scraps of pasta, that means the leftover dough after preparing fettuccine on a festive occasion.

This shape is also widespread in the Maghreb, particularly in the North-East of the area and in South-East Europe, where is used for traditional dishes and soups.

The latest addition to Storci's lines, among the machines for the production of special shapes, is the **quadrucci forming machine QDR 540**, which allows the production of quadrucci of different sizes, with smooth or ridged edges, even on all four sides.

#### Machine characteristics:

Totally stainless steel and fully openable for easy cleaning and quick shape change. Two independent drives, interchangeable knives and cutting rollers to produce the desired shapes and dimensions.

for an easy insertion/removal in the various line configurations for pasta shape changes, without hindering the production process. Possibility of adding other shapes after purchase. Independent electrical panel with inverter for a specific machine control. The **quadrucci pasta forming machine** by Storci is suitable for integration into new or existing lines and is a valid solution for those wishing to produce this particular pasta shape with targeted performance.

**QUADRUCCI FORMING MACHINE QDR-540**

INSTALLED POWER (kW)	0,92
DIMENSIONS (WxDxH) (mm)	1258x1340x1444
WEIGHT (kg)	340
DRY PRODUCT (kg/h)	200 / 250
CUTS	5X5 / 10X10
EDGE SMOOTH / ZIG-ZAG	

