



make
it grow

Present
&
Future

TRANS ORIENT FOR MARKETING

iControl
Total

COMPLETE IRRIGATION
PERFORMANCE

WE MAKE HISTORY



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it grow**

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Alkhorayef
Irrigation Solutions

A WORD FROM THE CEO



JOSÉ FERNANDO TOMÁS



It is my pleasure to present you this new issue of our magazine MAKE IT GROW. In this case, we are dedicating it to Egypt... a civilization that developed around the Nile river, which provided water and fertile soil used to grow excellent crops that allowed the Egyptians to build an Empire on the basis of great agricultural wealth. This civilization is considered to be the first one practicing agriculture on large scale, growing important crops such as wheat, barley and even industrial ones such as linseed and papyrus.

Today the importance of agriculture in Egypt's economy is growing again. Following some years of uncertainty, we are seeing impressive projects under development and farmers doing an excellent job growing new crops in the region. AISCo is proud to support this expansion through TOM. Because Egyptian farmers will require the latest technologies and the best service to make their crops profitable, this can only be achieved with the best professionals and the best suppliers working together as one team with our customers as TOM does.

TOM represents the best farm equipment manufacturers for any need our customers

may have. Brands as well-known as John Deere, Western, Rovatti, Gaspardo, Holmer, Gulf-Power... are the ones successful farmers need for their new projects. These brands represent the best technology and performance available in the market. Because the technology in agriculture is evolving quickly, providing more and more control for the farmer's crops and equipment. In fact, we are convinced at AISCo that very soon we will be able to manage our farms through a computer that will control, in real time, all the key parameters needed to maximize production and profitability of any farming operation. Development is moving fast for every industry, and we are investing in this trend to support you and all our customers to produce more food in a more efficient way.

You can be confident that AISCo will always be supporting our farmers, providing our best advice through our Project Engineering department, supporting their execution with our Project Managers, supplying the best Farm and Irrigation Equipment, guaranteeing the best installation and maintenance of their machinery, directly or through our Dealers, Companies and Partners. And always meeting our AISCo vision: providing our farmers a solution for life.



let's together
MAKE IT... HAPPEN!!

Present & Future

TOM (Trans Orient Marketing Company)

There are projects to which we must pay attention to be part of them. With such ambitious investing plans adopted by the company, Alkhorayef Irrigation Solution (AIS) is keen on setting its eyes and interest on one goal – making Alkhorayef Group represented by Trans Orient Marketing Company the largest leading company and service provider for the Sector of Agriculture, Machinery and Irrigation in Egypt.

Some of the qualities that make Egypt the preferred regional center for Africa and Egyptian Market Region include:

- Distinguished geographical and strategically trading site of Egypt
- Available trained manpower in Egypt
- Being an open market for free trade with KSA as it is easy to exist and invest in Egypt without customs
- The free trade agreement concluded between Egypt and the African Countries made Egypt – for us – the main center and gate to the African Market by overcoming the transportation and customs obstacles and facilitating the logistical movement

To cope with phases of structuring and development, we have also developed the administrative offices of the company as we moved to a new administrative office. The same thing was done to the company's branches in Egypt. We extended the network of branches to expand the geographical coverage in the country. We also improved distribution by increasing the number of distributors.

There is no doubt that the most important aspects receiving the interest of the Alkhorayef Group in Egypt is technical support and after sale service, as well as spare parts availability for machines and equipment at any time and at every place year round. We are also keen on existing in Al natron Valley, East Owaynat and recently in Al Daba'a.

The extension and the structuring followed by the company do not only mean the development in centers, branches and human experiences; but we are eager to change and develop the entire selling and marketing policies of the company to cope with the new economical procedures, pricing, and market conditions. Such developments and acts are followed by daring resolutions that were necessary to be taken in such framework.

The Marketing Plan is one of the most important factors of success for any company and its existence in the market. What are the particulars of such plan adopted by Alkhorayef Group in Egypt and Africa?

Direct access to the clients through field days and seminars supporting the practical existence and the direct explanation to the client and working with him, technical support for the client in reality

In the marketing plan, we are keen on achieving the principle of providing the client with integrated solutions so that all his supplies related to machinery and modern irrigation systems are available from Alkhorayef with all its equipment, parts and the team trained to work on them.

We are intent on providing the integrated solutions that support energy saving, maximize the final productivity of the crop and achieve the highest profitability for the investor or the farmer.

Working through various participation of the company in the different exhibitions to reach the largest base of clients

Creating previously nonexistent services at the company such as harvesting services, with the latest European machines and equipment.

With respect to the long-term marketing plan that we are going to work on during the next five years, it is as follows:

- Reaching a description for the company as it is a world digital company providing the documentary cycle into electronic forms
- Entering the work with Oracle software in all branches and connecting such systems in one network through which all branches all over the world can contact
- Creating a system for managing the warehouses and re-structuring the stock from equipment and spare parts as well as building future plans for demand and market needs in an advanced form. It also includes enumerating the used equipment and the extent of their future need from the spare parts



In figures, how can we measure the existence of Alkhorayef Company in the Egyptian Market?

We can enumerate the number of the systems covered by our business in the Egyptian Market throughout the last three years as of Western Pivot Systems, John Deere Tractors, Gaspardo Agri equipment and Holmer Harvesters. It is an increasing number. With respect to our largest customers in the governmental sector – they are numerous – including for example but not limited to: Ministry of Agriculture, Mechanics & Electricity Organization, Ministry of Environment, National Company affiliated to the Army, Engineering Authority Administration, Potable Water Organization. With respect to the private sector, I would like to mention: Nile Sugar Company, Farm Frits, Navigator, Chipsy and others in addition to 500 minor and medium investing farmers. In the framework related to encouraging middle and minor investments and in cooperation with the National Bank of Egypt and Development and Agricultural Credit Bank, we support the minor and medium farmer with special and appropriate solutions since he is the most effective and important gear in driving the economy's movement. We also offer lease options through dedicated leasing companies for investors to provide the investor with the necessary equipment on lease for a certain period. At the end of such period, he owns the equipment. I think such financing solutions and payment plans distinguish us from

a lot of other competitors and are in conformity with current conditions of the market.

Would you like to work in manufacturing in Egypt during such a phase of increasing local manufacturing and limiting importation?

Actually, the state adopts the approach of limiting importation and encouraging local and domestic product. Since working on economical procedures, its current policies tend to increase and support local product and local manufacturers as well as achieving sufficiency with original Egyptian industries. At once, we took the decision to participate in such a race towards manufacturing. Our orientation has been given to local manufacturing for Alkhorayef Products in agreement with Arab Organization for Industrialization to manufacture our products and assemble them in Egypt by Egyptian Hands. The first initiative was to participate in producing and supplying 200 pivotal irrigation system for Alfarafra project. We also plan to increase the local manufacturing ratio to reach the maximum possible limit in two years.

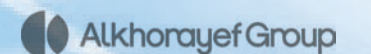


Eng. Ashraf A. Geweily.
 TOM General Manager

We did not stop in such matters, we have also considered the idea of establishing a factory for us in Egypt to be able to meet the needs of The Egyptian and African Markets where we work as Alkhorayef Group.

Egypt's Future Project in Al Daba'a is one of the most important agricultural projects that are currently executed, what is the size of your participation in such project?

I would like to praise the political leadership that works hard to increase Egypt's Economic level. Such project is one of the most important existing projects. It is the project for cultivating 900,000 cultivable feddans. The first stage is cultivating 300 thousand feddans at the extension of Al Dab'a western boundary till Delta. The state provides lands and the infrastructure (water, electricity and digging wells). The investor began to enter and determine the area that he is going to cultivate. Our role as private companies is to provide irrigation equipment, machinery and tractors. We provide all our capabilities for the investor so as to make such lands produce products. We decide to exist in such area with a complete branch at this region since we believe in the importance of such area and its promising future. It is expected to implement the cultivation of the first phase in next October and the second phase in 2018. We provide a stock from the pivots as an existing commodities to cope with the development in the project. To meet the demands of large projects, we prepared a plan for the operation systems to provide the requested raw materials and equipment.



Western



Irrigation Applications Solutions

Center pivots or linear mechanized irrigation system becomes more popular with all food producers who develop mega-scale agricultural projects around the world due to their high irrigation efficiency, friendly use, long life, ability to cope with varying levels of water quality and by being able to operate in different soil types and topography.

The objective of this article is to provide some thoughts on how to select the right configuration of your irrigation system to suit your water, soil, crop and climate conditions. In addition, selecting the heart of your irrigation systems which is the sprinkler package to get higher irrigation efficiency and to overcome runoff and deep rutting problems is also included. Last but not least, how to monitor and manage your irrigation systems remotely from everywhere and at any time easily.



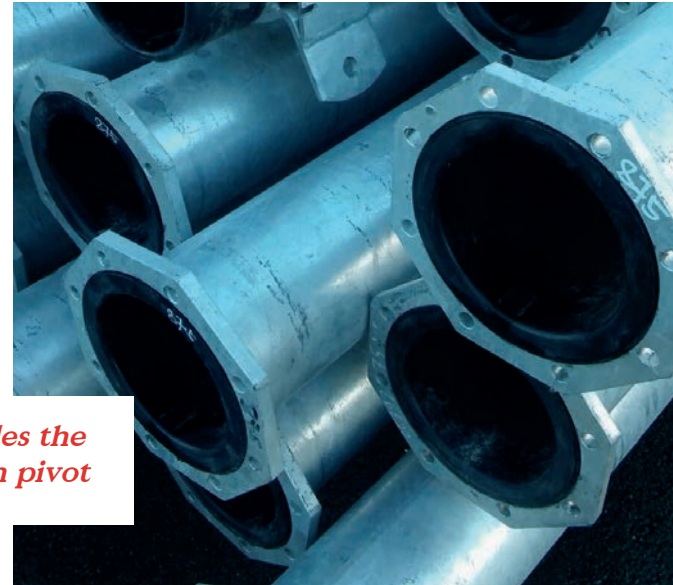
Dr. Khaled Shalabi

Ph.D & MBA

Global Development & Marketing
Director – Alkhorayef Industries Co.

System Configuration

Let us talk first about how to select your mechanized irrigation systems. You need to know the water source, how much water you have available, water pressure available, and its quality. For instance, if your project is located in the Western Desert of Egypt at ALFARAFRA oasis which its main source of irrigation is naturally flowing springs or pumped from wells with high iron concentration or corrosive water, you will need to use the Permapipe solution which protects against corrosion in pivot pipes due to low quality water by lining the internal surface of the galvanized pipes with a high density polyethylene (HDPE). This solution lets you forget about the possibility of any damage in the pipes of your irrigation systems due to corrosive water for more than 15 years.



Permapipe solution which provides the solution for corrosion problems in pivot pipes due to low quality water

Once you know how much water will be delivered per hour you can calculate the maximum area that could be irrigated by one center pivot, referencing the maximum water consumption per feddan or hectare during the day through knowing the Evapotranspiration (ET) in mm/day occurring in this area during the summer period. You can get such data from the historical climatic data of the region during the project design stage and you will also need to install your standalone weather station in your agricultural project to receive fresh daily data to calculate the Evapotranspiration (ET) rate and monitor other climatic data such as temperature, solar radiation, wind speed and the soil temperature as well to define the planting data.



Once the irrigated area under one pivot is defined as 125 feddan (52 ha) for instance with a water flow rate of 204 m³/hr, a center pivot consisting of 7 Permapipe spans 56-meter long plus 17-meter long overhang will be configured to irrigate this area.

Sprinkler is the heart of the irrigation system

According to the soil type, wind speed and crop type, sprinkler package will be selected. Water application rates along the pivot system should not exceed soil infiltration rates of the soil. When you deal with sandy soil you can select either fixed or dynamic sprinklers to be equipped with your irrigation system, If the soil is medium-and fine -textured soils, you should instead select The dynamic sprinkler which has the lowest instantaneous application rate matching the low infiltration rate of this soil type to avoid the substantial runoff during irrigation events at this area which covers 60% of the total area under the pivot irrigation system and produces 60% of your yield (Sprinklers PHOTO). If you have a windy conditions, you need to select sprinklers with lower trajectory angle to minimize the evaporation losses. On the other hand, some crops such as potatoes need fine droplets to not damage its seed bed and expose its seeds to the sun, so you should select the right plate when you select your sprinkler package. In the same regard, use pressure regulators to maintain constant pressure and flow on even and uneven ground and to create the ideal conditions ffor maximum application efficiency.



The following graph shows the average application rate under each span when using two fixed plate sprinklers (FPS1& FPS2) and two dynamic plate sprinklers (DPS1& DPS2) to irrigate this specific area (125 Fed) with the delivered flow (204m³/hr).

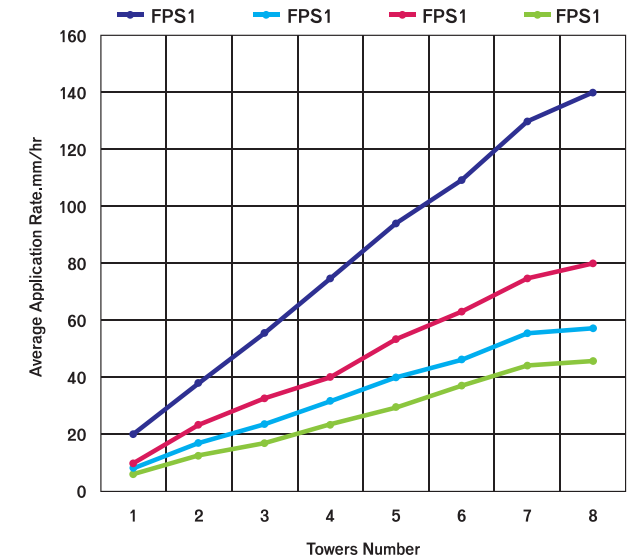
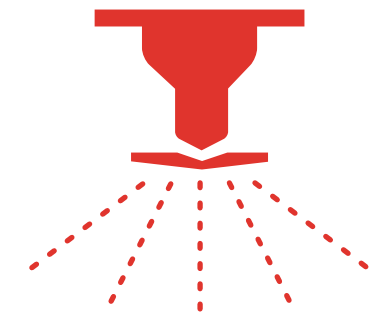


Fig (1): Average application rate under each span



OPERATING Pressure means MONEY

When you aim to minimize your operating cost and maximize your return on investment, you need to select a center pivot that requires a minimum operating pressure at its pivot point and pump. In order to achieve this target, a study has been conducted to investigate the possibility of saving energy using different span sizes when irrigating 63ha of land. The study determines the relationship between energy savings and the annual operating cost of the center pivot and its pump and figures out the payback period versus the extra investment required when using bigger span sizes. In this study, nine (9) configurations with different spans sizes of 6-5/8" and 8-5/8" have been hydraulically tested. The obtained results showed that 77% of the total area of 63.3 hectares is irrigated by the last four spans and the overhang while the first four spans irrigated only 23% of the total area, 90% of the cumulative friction loss occurred in the first five spans when the 6-5/8" pipe size spans are configured the center pivot. The lowest cumulative friction loss of 0.8 bar is occurred when using 7 spans 8-5/8" pipe size and two spans as 6-5/8". 33% of the annual operating cost is saved using the aforementioned configuration. Payback period is one year when using five spans 8-5/8" pipe size while increases to two years when using seven spans of 8-5/8" pipe.

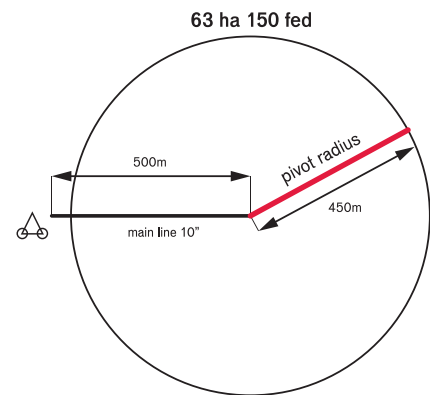
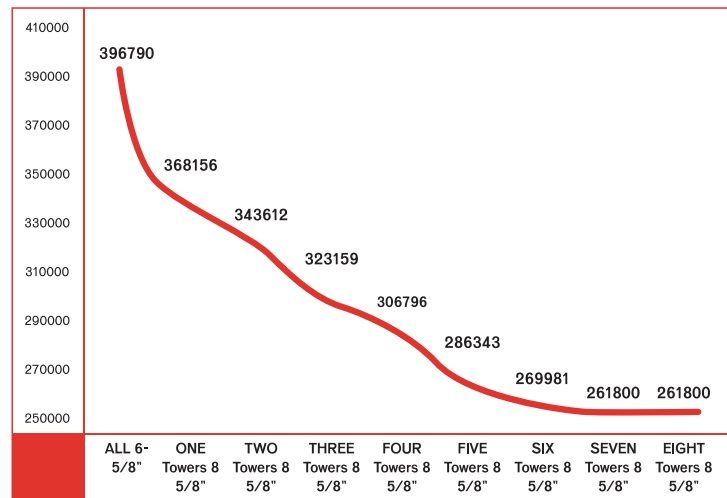
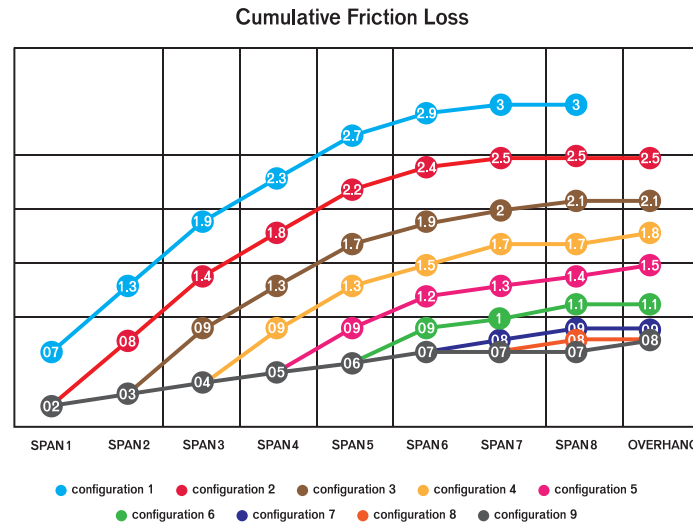


Fig (2): Center pivot with 450 meters radius and its mainline - 10" to the well and its pump



As you can see, pivot configuration and sprinkler package selection are a combination of many factors that should be considered during the design stage, making it very important for you as a farmer or project owner to select the right partner or qualified supplier when you buy your irrigation system.

The WESTERN-CP600 irrigation system includes a complete package of sprinklers, both fixed and rotating, in order to accommodate any type of terrain, crop or weather conditions. The sprinklers operate at low pressure, uniformly along the entire pivot, reducing operating costs through low operating pressure, efficient water application and minimizing losses caused by evaporation, wind drift and surface run-off.

iControl Total

Complete irrigation performance.

iControlTotal is a remote management and automation tool for pumps, solid set drip irrigation systems and pivots using a PC, tablet or smartphone connected to the Internet. Also, you can manage all your irrigation sites from just one place: your mobile phone, wherever you are in the world.

iControlTotal alerts, charts and reports will help you make informed decisions for the maximum productivity of your operations. Are you worried about burglars? No problem! You will get an alert whenever an unauthorized person enters your premises.

Being able to remotely manage your irrigation operations will increase your profit thanks to increased precision and control of the frequency and consistency of the irrigation, while reducing labor, water and energy usage. **iControlTotal** can also take weather conditions into account to help you make the best irrigation decisions.

***iControlTotal IS A
MULTIFUNCTIONAL PRODUCT
CUSTOM-DESIGNED ACCORDING
TO EACH FIELD'S NEEDS. THANKS
TO THE AVAILABLE FEATURES
CATALOG, THE CUSTOMER CAN
DESIGN THE ICONTROLTOTAL ON
DEMAND.***



Features

Remote control and automation

- Irrigation and fertigation are automated.
- Unified irrigation management of all your operations from a single web app
- Power generation management (generator or solar energy)
- Wireless control solenoid valves

Monitoring and charts

- Pump control, electrovalve status, water flow and pressure, well/reservoir levels, pump operation, rainfall, etc. can all be combined in helpful charts and reports.
- Data from water/energy meters, pressure/humidity sensors, weather stations, well levels, etc. are seamlessly integrated.
- SMS/email/Internet alerts are automatically triggered following any failure (pressure, pumps, blocked valve, etc.)
- Charts and reports can combine data from all fields.
- Real time information available 24x7 on your cell phone, tablet or PC.

Efficiency: save energy and water

- Pressure pumping regulation monitors the pressure in the pivot's last towers or highest sector instead of just at the pump's outlet.
- Electricity/diesel usage monitoring and precise irrigation for every crop's stage of growth.
- For solar pump stations: automated opening/closing of electric valves according to radiation/pressure conditions.

Anti-theft system

Real-time viewing of the field, with theft and intrusion warning alarms sent to your mobile phone. Supports pan/tilt/zoom cameras.



Components

Central Unit

The central unit of the **iControlTotal** is responsible for managing the whole irrigation installation. We offer a wide range of models to suit irrigation needs of any size.

Internet

The intuitive Internet graphics app allows you to manage all your operations, virtually, from anywhere in the world.

Electric valve controllers

The **iControlTotal** Central Unit can handle directly wired electric valves. When there is a need to wirelessly open/close electric valves we can count on either of the devices below.



- **PRX-ZVAL:** a controller for up to 4 solenoid valves and one digital input per valve for pressure feedback. Solar powered. Up to 1km line of sight range from an RF antenna.

- **PRX-GVAL:** this valve controller is identical to the PRX-ZVAL but it includes GPRS connectivity instead of RF.

Pivot controller (iControlRemote)

It allows you to remotely manage and automate your pivots. **iControlRemote** is installed inside the last tower box of the center pivot and, using a built-in SIM card which automatically selects the preferred network, connects the pivot to the **iControlRemote.com** webpage.

Security Elements

- **Cameras:** able to zoom in and capture strange situations, and to check the state of your crop.
- **Intrusion detectors:** prevent and report any attempted theft, intrusion or sabotage.



iControlTotal benefits



- Remote centralized management and automation including generators, pumps, fertigation, solid set, drip irrigation.
- Total control over costs
- Wireless sensors provide accurate data for well informed decisions
- Water application and irrigation frequency optimized
- Real time video surveillance of equipment, crops and premises

One of the main advantages of our **iControlTotal** is that, once you have the controller installed in a shelter/pump station/Control room, it can do all/any of the following features by only selecting the right controller + accessories combination:

- Programming, remote control, and unified view of all components from your cell phone, tablet or pc.
- Control and automation of pumps (electric/diesel/solar).
- Irrigation programs execution.
- Alerts by email SMS (relevant changes, failures, theft intrusion, etc.).
- Electric/fuel consumption (l) measurement.
- Monitoring and graphical representation of pump operations, solenoid valve state, water flow, pressure, rainfall, etc.
- Mobile communications network (GPRS/3G) includes SIM card cost .
- Wireless control of additional pumps or pivots (*).
- Wireless solenoid valve control (*).
- Liquid fertigation automation.
- Continuous pressure optimization.
- Remote real-time video surveillance and recording for later viewing (*).
- Optional weather station and sensors (pressure, water meter, soil moisture, salinity, PH, etc.).
- Automatic evapotranspiration calculation for each crop (*).

(* Additional equipment required)

iControlTotal, **iControlPump** and **iControlRemote** are products developed by Proxima Systems for Alkhorayef and its affiliates.
www.proximasystems.net





GASPARDO

Maschio Gaspardo is a famous and important Italian company, founded in 1964. Since that year, the Company has grown becoming an international Group even through the important acquisitions achieving a product range that covers the whole agriculture's stages: plowing, tillage, seeding & planting, green maintenance, haymaking, crop protection and fertilization. Our history are as follows:

1964

1964 - The Maschio brothers established their business in the small shop of rotary tillers. Just in a few years, production shifted from a small-scale set-up to a major industrial production site

1994 - Acquisition of Gaspardo Seminatrici, located in Morsano al Tagliamento (Pordenone) and renowned for its precise and reliable seed-drills. The Gaspardo plant has been producing machines for the delicate activity of sowing since 1834 as it still does today

2003 - Maschio Gaspardo opens a production plant in Romania, at Chisineu-Cris (Arad) to produce minimum tillage equipment



2011 - Maschio Gaspardo opens a production plant in India, at Aundh (Pune), to produce rotary tillers and mulchers for the internal market

2013 - Maschio Gaspardo opens the Unigreen plant in Portogruaro (Venezia), to produce sprayers and seeders, and establishes a partnership with Moro, a company located in Concordia Sagittaria (Venezia), specialized in the production of ploughs



2014 - Acquisition of Feraboli, a historical company from Cremona, renowned all over the world for its

hay making equipment. Partnership with Visini, a society of Calvatone (Cremona) specialized in the production of agricultural trailers, tank trucks and dumpers. Partnership with Friuli Sprayers, a company of Torviscosa, specialized in the production of drift recovery and special mist-sprayers for orchards and vineyards

Today Maschio Gaspardo - 320 mln of €uro generated in year 2017, 7 Production plants and 12 Sales Branches with 1.800 employees and 70.000 units of implements produced annually - is the first player in Italy and one of the top 5 in Europe. Following this strategy in growing worldwide, at the end of 2017 it was set an important Distribution Agreement for Egypt with Trans Orient for Marketing, a very active Partner with which we share the same values: passion, perfection and a really strong customer care.

2017

Our core value is:

- **STRONG ORIENTATION TO PRODUCTIVITY AND WORK**
- **PROACTIVE APPROACH TO GROWTH AND DEVELOPMENT**
- **SERVICE AND QUALITY CHECK**
- **STRONG CUSTOMER CARE**

Here is one of success stories between us and Trans Orient for marketing:

Environmental pollution elimination is one of the main tasks of ministry of environment. Two years ago, there was always a claim from all people in Egypt that a dark black cloud (that was coming from burning rice straw after harvesting it) was affecting the health of human beings.

According to that, ministry of environment started to apply a solution for that by dealing with Maschio through TOM Egypt to supply 70 Maschio

Feraboli balers. They operated them on the areas that are famous with rice planting. As ministry of environment used our balers with the support of TOM's after sales service, they found controlling the problem is easy. So, our machines were the proper solution to get rid of black cloud. In the meantime, Maschio Gaspardo strong relationship with TOM leads to achieve our target in the Egyptian market.



The Group economic growth is based on continuous R&D, performed by a large team of technicians, but also through the synergies created with the top leaders of the agricultural sector at an international level.

The positive trend has also given start to productive investments, among which there is the installation of photovoltaic systems over the roofs of the Italian plants.

For more information , please visit www.maschio.com

Events



In September, AISco witnessed the 30th edition of SAHARA International Agricultural Exhibition for Africa and the Middle East which took place in Cairo, Egypt. During the four-day show, all the agricultural industry gathered in the Cairo International Conference Center in which AISco MENA was pleased to come and offer to the audience our state-of-the-art irrigation products. Since its establishment in 1987, SAHARA EXPO was mainly dedicated to serve the Egyptian market and the territory with all the technology and new implementation in the fields of agriculture, and maritime.

September



November was a busy month with interesting covered events; the first one was AGRITECHNICA SHOW (Hannover, Germany) which is one of the leading exhibitions for agriculture in Europe. This issue has counted on the participation of 2,803 exhibitors and 450,000 visitors, including more than 100,000 from outside Germany. The staff of AISco had the opportunity to meet their customers and growers, further building the commercial relationships.

November

Our second event of the month was IA Show in Orlando, Florida, US. Pierce team attended this international trade fair which took place from the 6th to 10th of November. IA Show is the leading exhibition for agriculture, agricultural machinery, livestock farming, alternative energy, organic agriculture and food industry in US. Our colleagues of Pierce received all the visitors and showed them the latest news about the Pierce products. Thanks all for your visit and see you soon during the next event!!



TOM team



TOM team of diversely skilled professionals continually push themselves to learn and evolve so that we may help you conquer each new challenge on the road to success. Every person on the staff is committed to providing excellent customer service and producing high-quality products and services. All the departments: Sales, Marketing, Engineering and Water Management, Supply Chain, Finance, IT and Human Resources are strongly committed to meet successfully the customers' expectations. Its dedication, enthusiasm and insight are really inspiring.

Wish TOM team many years of great achievements!

iControl Remote

www.icontrolremote.com

YOUR IRRIGATION SYSTEMS ARE MONITORED & MANAGED

REMOTELY





Alkhorayef
Irrigation Solutions

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