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# Message from the ISFS Ltd President and 18<sup>th</sup> ISF Chairman, *Ettore Contestabile*

Dear 18th ISF Attendees,

It feels like an eternity ago that we gathered for our last ISF in Puerto Vallarta, Mexico. Returning to Malta has been an obvious choice. Not only was it time for the ISF to return to Europe but Malta has remained an enclave of originality and its "status quo," with regard to fireworks remains most attractive to many.

Fireworks are so imbedded in the culture that they have become one of those intangibles defined within the Directives of the European Union. As such, we chose the theme for this ISF, even though consumer



fireworks use is not allowed in Malta. For some reason, consumer fireworks did not develop in Malta as did the development of their famous "professional fireworks" for annual celebrations of their Churches' Saint Days and their famous Fireworks Competitions. Of course, in addition to their Professional or Aerial Shell developments and manufacturing, their ground level, mechanical displays have also flourished.

During the week of the symposium, outstanding, scholarly papers will be presented along with highly popular moderated sessions (round table discussions), and workshops surely of great interest to the international fireworks community. Our Trade Show will showcase exceptional products and services from exhibitors from around the world. Be sure to visit the trade show and benefit from the interactions with the exhibitors.

During the extended period of the 18<sup>th</sup> ISF in Malta, the attendees will have the opportunity to see the Ground Level, Mechanical Fireworks Competition held before the 18<sup>th</sup> ISF Week, on Saturday, April 22, 2023. The Malta Host Committee has made sure that the ISF Registrants will enjoy many local fireworks and aerial fireworks displays during the ISF week which are part of the Malta International Fireworks Festival (MIFF), which has its final display on the evening of Sunday, April 30, 2023.

The Gala Dinner, on Friday evening will be at the Mediterranean Conference Centre's (MCC) La Valette Hall, the same location as it was at the first ISF in Malta in 2012. Because of the joint support of the Malta Tourism Authority and the ISFS Ltd, the ticket price is similar to that we had in Puerto Vallarta, Mexico at the 17<sup>th</sup> ISF. We hope that all can take part in the dinner and then afterwards enjoy special viewing from the MIFF viewing area of the fireworks fired from the Grand Harbour.

Once again, a huge thank you to our sponsors for all their support.

The ISFS Ltd Board of Directors wishes you a happy return to this ISF in Malta where we continue to strive to Discover the Fire  $- E \Xi E YPI \Sigma KETE$  TO  $\Pi YP$ !

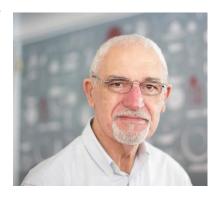
Ettore Contestabile ISF Chairman

### Greetings from the 18th ISF Honorary Chairman, Joseph Theuma

After a delay of three years, finally the 18<sup>th</sup> ISF is to go ahead in Malta for the second time in its history. In 2020 preparations started to be consolidated to have a memorable ISF on our Island.

However, it was not destined to host the ISF as Covid 19 took control all over, leaving the world wondering what to do. It created a world of unknown circumstances with no immediate foreseeable solutions. Three years have now passed, and the world is now, somewhat back to normal. As pyrotechnics are concerned, they were also victims to this pandemic.

This situation brought with it in my opinion two factors: a near standstill in fireworks displays and a calm atmosphere where one had time to create new effects. Both of these factors were evident here in Malta.



Having an international attendance at such an event it would be very appropriate to bring the issue of Health and Safety to the forefront. My first international experience of an ISF was the year 2007 in Montreal. My presentation was ''Are Firework Operators Aware of the Toxicity of Fireworks Compositions?'' (A Malta Case Study). When I finished my delivery of the presentation, coming down from the stage, Mr. John Bissonnette, the Honorary Chairman came forward to congratulating me for bringing this subject forth. The discussion we had still remains in my mind and drives me to teach the basic requirements needed to obtain a firework license here in Malta.

Since 1992 to acquire a license in fireworks one had to attend a course which covered five basic subjects. Chemistry, Accident Prevention, Law, Procedures and First Aid. Since then, these courses have improved and evolved. In 2010 instead of an interview, written examinations were introduced. In this way the candidates were made to study more.

These courses started to achieve results. A government held Commission to investigate fireworks accidents in 2010 in its final report predicted that each year there would be 1.67 fatalities from fireworks accidents. Since 2014 until today there have only been three accidents which gives an average of 0.33 fatalities in nine years. Only one happened during the process of manufacturing. Education is key to accident prevention.

That is the only way to instill knowledge in each individual. Both the local Law and EU Directive, implies that the employer in this case the Licensee, should provide the necessary Information, Instruction, Training and Supervision which in one word means EDUCATION.

I cannot let this occasion go by without thanking my able fellow colleagues who form the team of lecturers during the licence courses.

Two factors in Management that are important for a successful enterprise which both are related to H&S are Quality Assurance and Protecting the Employee. Without quality assurance profits are hard to come by. By protecting the employee one can rest assured that the experience gained during manufacture, should be safeguarded by the employer by making the place of work as safe as possible and up dating whenever it is necessary. Losing an experienced employee is a great loss for any enterprise.

Let's take the Malta 18<sup>th</sup> ISF as an opportunity to establish a world wide poll of information regarding Health and Safety both where fireworks are manufactured as a business and like Malta where fireworks are done as a hobby on a voluntary basis.

A heartfelt welcome to all attendees for this 18th ISF Malta.

Joseph Theuma, Honorary Chairman

# THE 18th INTERNATIONAL SYMPOSIUM ON FIREWORKS COMMITTEE

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Joseph Theuma

#### Chairman

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Will Harvey PhD – Finale Fireworks, USA

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#### Moderated Sessions Coordinators

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Jorge Mauro Márquez Márquez Lux Pirotecnia, S.A. de C.V.

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#### www.ISFireworks.com

It takes a great of work to plan, organize, promote and execute the Symposium, requiring coordinated efforts from many dedicated volunteers. This Symposium had organizational and logistic support from the Malta Host Committee, comprised mostly of staff members of the Malta Tourism Authority (MTA), <a href="http://www.visitmalta.com">http://www.visitmalta.com</a>. The MTA also generously provided substantial sponsorship for the 18<sup>th</sup> ISF. We, the Directors of the ISFS Ltd, are indebted to the Host Committee members listed below and local, state and federal government officials.

#### Malta ISF Host Committee

Joseph Theuma President

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Kearon Bruno Treasurer Georg Farrugia Secretary

Alexia Lia Conference and Protocol
Stafan Vella Display Co-ordinator
Roderick Zammit Logistics Co-ordinator
Toyah Zammit Communications

Roseanne Cortis Legal Advisor/Consultant

## The ISFS Ltd Directors acknowledge and appreciate much the support of the Malta Pyrotechnic Association.

#### Malta Pyrotechnic Association

Josef Camilleri President
Louis Chetcuti Vice-President
Charles Briffa Secretary

Bernard Cauchi Assistant Secretary

Charles Azzopardi Treasurer

Benny Briffa Assistant Treasurer

18th Malta International Symposium on Fireworks Week-at-a-Glance

Time	Saturday April 22	Sunday, April 23	Monday, April 24	Tuesday, April 25	Wednesday, April 26	Thursday, April 27	Friday, April 28	Saturday, April 29	Sunday. April 30
		•	Registration/ Trade Show Until 17:00	Trade Show Until 17:00	Trade Show Until 12:00	Trade Show Until 17:00	Trade Show Until 12:00		
9:00			OPENING Presentations	Presentations	Moderated Sessions	Presentations	Presentations	Optional:	Optional:
10:30			Break	Break	Break	Break	Break	Gozo	Exclusive
11:00			Presentations	Presentations	Moderated Sessions	Presentations	Presentations	Traditional Fireworks Only	Tour to attend St Publius' Band
12:30		Registration	Lunch	Lunch	CLOSE	Lunch	CLOSE	(talGendus Area	Marches
13:00 13:30		Registration	Presentations	Presentations	Optional Activities	Presentations	Closing Reception	(10 participants)	
					Fireworks				
15:30			Break	Break	Factory Visits	Break			
16:00			Presentations	Workshop:		Workshop:			
				Right to Use	To provide traditional	Large			
				Consumer Fireworks	food as part	Diameter Fireworks			
				Theworks	of the tour.	Shells			
17:30		CLOSE	CLOSE	CLOSE	(Both, to be	CLOSE			
					arranged)				
		Welcome	-				Optional:	-	
		Reception					Closing Gala		
		reception					Dinner and		
							Fireworks		
20.00		*** 1	TO 1 .	m 100 1		m 100 1	75USD		3 mm or -
20:00	Mechanical Ground	Welcome Fireworks	Fireworks at the Grand	Traditional Fireworks/		Traditional Fireworks/	Fireworks at the Grand		MIFF Closing Show at the
	Fireworks	rireworks	Harbour.	Ground		Ground	Harbour.		Grand
	Festival,		Valletta	Fireworks,		Fireworks,	Valletta		Harbour,
	Floriana		(3	Location:		Location:			Valletta
			participants)	Hal Lija		Mellieba			
						(main square)			
						Local food/drinks/			
						sweets			
						3140013			

#### Registration

Registration for the 18<sup>th</sup> International Symposium on Fireworks includes entry to receptions, meals and refreshment breaks, all technical sessions (paper presentations), moderated sessions (round table discussions), workshops, full access to the Trade Show, and all events and activities organized by the Malta Host Committee (MHC).

Registrants will receive a distinctive attendee bag, both a printed and digital copy of the 18<sup>th</sup> ISF Proceedings, which is a compilation of the scientific and technical papers presented at the symposium, and other promotional materials supplied by sponsors and advertisers.

#### **Trade Show**

Exhibits will open each day at 9:00 Monday to Friday, and will close at the same time as the technical sessions. Attendees are strongly encouraged to visit our outstanding exhibitors and discuss their products and services. The exhibitors' participation is a highly welcome and necessary part of the Symposium.

#### **Welcome Reception**

The opening Welcome Reception, courtesy of FireOne, is open to all 18<sup>th</sup> ISF registrants and their spouses and guests and will take place on the grounds proximate to the outdoor pool of the Grand Excelsior Hotel.

It will be held after Registration, on Sunday evening, April 23, 2023. It will begin at about 19:15 hrs (7:15 pm) and ends at about 21:15 hrs (9:15 pm) Snacks will be served from about 19:15 hrs to about 20:00 hrs (for 45 minutes) The bar service will be available from 19:15 hrs to 21:15 hrs (2 hours)

A sound system will be used in the opening and closing remarks to the audience and will also be employed for the music track for the choreographed special effects fireworks display, entitled "FireOne DMX Special Effects Showcase." The 3-minute special effects display will be expected to take place at full sunset, with the actual time being based on how soon the sky is sufficiently dark for the display. It is estimated that this will be at about 20:30 (8:30 pm).

#### **Closing Reception**

The closing reception will take place immediately after the close of the 18<sup>th</sup> Malta ISF, on Friday April 28, 2023. It will take place just outside the Grand Ball Room the Symposium room) of the Grand Excelsior Hotel. The start time will be at about 13:00 hrs (1:00 pm).

#### **Special Malta Host Committee Events**

The MHC will provide to all attendees at the 18<sup>th</sup> ISF Registration Desk a schedule of special events, including local tours of tourist attractions, and the schedule for the Malta International Fireworks Festival displays.

#### Please Note-

All of the events during the week of 24-28 April, which are outside the 18<sup>th</sup> ISF Program proper, which includes the spectacular fireworks displays, are organized and executed through the Malta Host Committee (MHC). Its members deserve our generous recognition and appreciation.

#### **Sponsor Recognition**

It would not be possible to maintain the high standard and quality of the Symposium that we have come to expect without the support and generosity of our sponsors. We, the ISF and MHC committees and all the attendees, extend a warm, heartfelt thank you to our Sponsors. We truly do appreciate your support!

Sponsorship	Company
Gala Dinner	Malta Tourism Authority (MTA)
Welcome Reception	FireOne, Pyrotechnics Management Inc.
weicome Kecepiion	FrieOne, Pyrotechnics Management inc.
Attack de a Direc	Drug Crasto sulore by Cours
Attendee Bag	Pyro Spectaculars by Souza
Digital Proposition (Flash Card)	Showtime FX
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Flash Drive)	Rho Sigma Associates, Inc

# 18<sup>th</sup> International Symposium on Fireworks (ISF) - Malta Program Monday, April 24 to Friday, April 28, 2023

MONDAY: April 24, 2023

#### 9:00 Official Opening

Ettore Contestabile, ISF chairman Joseph Theuma, Honorary Chairman

#### **Guest Speakers**

10:00 **Tourism, Events and Fireworks in the Maltese Islands -** Malta Tourism Authority (MTA)

#### 10:30 BREAK

#### **Session 1**

Session Chairperson: Maria Grazia Gerbaudo, Chief Sales Officer, Panzera, Italy

11:00 Firework is Culture! - Georg Alef, WECO Pyrotechnische Fabrik GmbH, Germany

11:30 **Fireworks as UNESCO Intangible Cultural Heritage – Proposal for a Global Campaign Framework** - *M.A. Felix Martens*, Federal Association for Pyrotechnics and Fireworks Bundesverband für Pyrotechnik und Kunstfeuerwerk e.V., Germany

12:00 Consumer Fireworks in Europe – Challenges for the Future - *Martin Dümmel*, Bundesanstalt für Materialforschung und–prüfung (BAM), Germany

#### 12:30 LUNCH

#### **Session 2**

Session Chairperson: Roderick Zammit, Logistics Co-ordinator, MTA

14:00 **New Trial to Reactivate Consumer Fireworks Market in Japan** - *Yoshimasa Inoue*, Inoue Toy Fireworks Mfg. Co., Ltd., Japan and *Takehiro Matsunaga*, National Institute of Advanced Industrial Science and Technology, Japan

14:30 **Significant Impacts of COVID-19 on Omagari Hanabi** - *Yasushi Saito*, Omagari Hanabi Steering Committee, Japan

15:00 Fireworks as a Cultural Entity – Aleem Kanji, NFA, Canada

#### 15:30 BREAK

#### Session 3

Session Chairperson: *Godfrey Farrugia*, Author of, "Fireworks, The Vibrant Celebration of the Maltese Islands"

16:00 **Consumers Right to use Consumer Fireworks -** *Andy Hubble*, Director, Star Fireworks Ltd, UK and Fireworks Sector Representative, Institute of Explosives Engineers

16:30 Experimental Validation of a new Packaging Type that Significantly Reduces the Transport Hazard Classification of Large Size Shells - *Jiang Zicheng* et al., Changsha Customs Technology Center, China Pyrotechnics Testing Laboratory (Hunan), China

17:00 **What Factor Makes Fireworks More Attractive to Audiences?** – *Kanon Kumekawa*, Yokote Highschool, Akita Prefecture, Japan

17:30 Analysis of Hazard Factors on Quality and Safety of Fireworks from the Perspective of Consumers – Liu Jingbiao, Changsha Customs, Hunan, China

#### **CLOSE**

#### **TUESDAY: September 25**

#### Session 4

Session Chairperson: Martyne Gagnon, Entertainment Manager and Director of

L'International des Feux Loto-Québec presented by TELUS, Canada

09:00 Challenges Facing Fireworks Business in Bulgaria Concerning Staff Training and Education, Changing Regulations, Restrictions, Public Sentiments, COVID-19 Impact, and Import Complications - Peter Shishkov and Nadezhda Stoycheva, Sofia, Bulgaria

09:30 Experimental Study on Utilization of Pyrolant Compositions Extracted from Decommissioned Consumer and Professional Fireworks - Nadezhda Stoycheva and Dr. Peter Shishkov, Sofia, Bulgaria

10:00 **The Manufacturing of Bigger Aerial Fireworks Shells (36 inches +)** - *Masanori Honda*, Katakai Fireworks Industry, Japan

#### 10:30 BREAK

#### Session 5

Session Chairperson: Mitsuru Arai,

11:00 **Study and Development of an Ignitor Without Pyrotechnic Substances** - *Ricardo Mendes, José Góis, Joana Quaresma, and Bianca Sterbling*, University of Coimbra, Association for the Development of Industrial Aerodynamics, Coimbra, Portugal

11:30 **Consideration in the Design of Hybrid Shows** - *Will Harvey*, Finale Fireworks, Palo Alto, California, USA

12:00 **The Past, Present, and Future of Electrical Ignition of Fireworks** - *Marc Speer*, Speer Feuerwerk Aachen, Germany and *Robert Foti*, ICON Pyrotechnics International Co Ltd, Hong Kong

#### 12:30 LUNCH

#### Session 6

Session Chairperson: Izaskun Astondoa, Piroteknia Astondoa S.A., Spain

13:30 **Analysis of the Risk of Wildfire Using Fireworks** - *José Góis, Jorge Raposo, André Bazenga, and Francisco Pires*, University of Coimbra, Association for the Development of Industrial Aerodynamics, Coimbra, Portugal

14:00 **Analysis and Reduction of Emissions from Pyrotechnic Articles** - *David León*, Universidad Politécnica de Madrid (España), Spain

14:30 **Application and Consequences of REACH in the German Pyrotechnic Industry,** *Christian Schragen*, WECO Pyrotechnische Fabrik GmbH, Germany

15:00 Study of Safety Evaluation of Fireworks Machine Involving Gunpowder Manufacturing in China – Shixing Ouyang, Liuyang Ouyang Technology, China

15:30 BREAK

#### Session 7

Session Chairman/Moderator: Ettore Contestabile ISFS Ltd President

16:00 **WORKSHOP** 

The Right of Consumers to Use Consumer Fireworks

17:30 CLOSE

#### **WEDNESDAY: April 26**

#### Session 8

Session Chairperson: *Mitsuru Arai*, Director, Asian Section, International Symposium on Fireworks

#### 9:00 Moderated Session #1

There will be two Moderated Sessions on Wednesday Morning. That is, the first Moderated Session #1 will take place at the start of Wednesday morning and as usual, the Moderated Topics will be repeated once. Please check the latest list of Moderated Sessions which will be available at the beginning of the ISF week, in Malta.

#### Moderated Session #1 Topics and Moderators

- 1. Racks and equipment for outdoors use Luigi Monetti
- 2. Maltese Fireworks Terminology Godfrey Farrugia
- 3. Significant Impacts of COVID-19 on Omagari Hanabi Yasushi Saito
- 4. "Environment" and "Sustainability" of fireworks Christian Schragen
- 5. Fireworks for Peace Bob Barclay
- 6. The World's Largest Firework Shell Launch Jesse Veverka, Jeremy Veverka and Hannah Basciano
- 7. Safe Manufacturing of Fireworks Lubomir Masar
- 8. Fireworks as a Cultural Entity *Sergio Luna*, Tultepec, Mexico
- 9. Fireworks as UNESCO Intangible Cultural Heritage. Strategic Considerations for a s uccessful Campaign Felix Martens and Jeorg Alef
- 10. NFPA Barge load mortar Formula Rachel Robbins and Ettore Contestabile

#### 10:30 BREAK

#### **Session 9**

Session Chairperson: *Jorge M. Márquez M.*, International Simposium on Fireworks Society, Ltd. Mexico and South America Section Director

#### 11:00 Moderated Session #2

The second, Moderated Session #2 will take place after the morning (Coffee) Break on Wednesday morning and as usual, the Moderated Topics will be repeated once.

#### Moderated Session #2 Topics and Moderators

- 1. Maltese Fireworks Terminology Godfrey Farrugia
- 2. NFPA Barge load mortar Formula Rachel Robbins and Ettore Contestabile
- 3. Particulate Matter Emissions from Fireworks and their Impact on Air Quality in Germany Felix Martens
- 4. The Future of Fireworks Vitor Machado
- 5. How to prepare for an EDM (Electronic Dance Music) festival as a fireworks company Paul Philipson
- 6. Differences in Cultures and Social Norms and How these Impact the Regulations, Types and Uses of Consumer Fireworks Charles Weeth

7. Maltese guidelines for fireworks storage facilities - Joe Theuma

#### 12:30 CLOSE - Free Afternoon

#### **THURSDAY: April 27**

#### Session 10

Session Chairperson: Marc Speer, Speer Feuerwerk Aachen, Germany

09:00 **Development of Rapid Detection Technology for Chlorate, Perchlorate, and Nitrate in Fireworks and Firecrackers** - Fangming Jiang, Zhongning Xiao, Ya Gao, Chan Liu, Lili Chen, and Zicheng Jiang, Technology Center of Changsha Customs, Hunan, China

09:30 **The Rise and Fall of Consumer Manufacturing in the US** – *Robert Kellner*, Kellner's Fireworks Inc., USA

10:00 **The hazards of wet fireworks containing flash powder** – *Petra Keijzer*, Industrial and Environmental Safety, Dutch National Institute for Public Health and the Environment (RIVM), The Netherlands

#### 10:30 BREAK

#### Session 11

Session Chairperson: *Lionel Gerada*, General Co-ordinator, Malta Tourism Authority (MTA), Malta

11:00 **Bursting Titanium Particles Controlled by Molecular Diffusion** - Chihiro Inoue, Department of Aeronautics and Astronautics, Kyushu University, Japan

11:30 **Fireworks Accidents in Japan in 2021** - *Atsumi Miyake*, Yokohama National University, and *Yuji Wada*, Yokohama National University and the National Institute of Advanced Industrial Science and Technology (AIST), Japan

12:00 Analysis of the Successful Launch of a 1,575 mm Shell with Comparison to External and Internal Ballistics Study - *Eric M. Krug*, Krug Consulting LLC, USA and *James C. Widmann*, Connecticut Pyrotechnic Mfg. LLC, USA

#### 12:30 LUNCH

#### **Session 12**

Session Chairperson: Robert Foti, ICON Pyrotechnics International Co Ltd, Hong Kong

13:30 Computational Modelling of a Highly Energetic and Sustainable Material for Fireworks - Marcela García Ibáñez, Laura Itzel Quintas Granados, and José Sánchez

*Enríquez*, Unidad de Estudios Superiores de Tultitlán, Universidad Mexiquense del Bicentenario, Mexico

14:00 **Investigation of an Explosion in a Firework Storage** - *Shulin Nie*, Swedish Civil Contingencies Agency, Sweden

14:30 A Dive Into the Iconography of Fireworks – Domenique Lajeunesse, France

#### 15:00 BREAK

#### **Session 13**

Session Chairperson/Moderator: Joeseph Theuma, Malta 18th ISF Honorary Chairman

15:30 Workshop Launches of Large Fireworks Shells

17:00 CLOSE

#### FRIDAY: April 27

#### Session 14

Session Chairperson: Dan Barker, Pyrotechnics Management, Inc., State College, USA

09:00 **Novel Method for Measurement of Emission Spectra of Fireworks Effects** - *Aaron Orland*, National Fireworks Association, USA, *Daniel Mo*uer, Pittsburg State University, USA, *Yi Wei Shan* and *Li Qiubo*, Changsha QianZi Fireworks Manufacture, Ltd, China

09:30 Castles of Fire, Rockets, *Inventives*, Gun Salutes, and Illuminations in the Seventeenth and Eighteenth Century Tarragona – Jordi Bertran, Universitat Rovira i Virgili, Tarragona, Spain

10:00 **Introduction of China Small Fireworks Standards** - *Paul Peng* and *Andy Tang*, Tian Chen Pyrotechnics Laboratory, China

#### 10:30 BREAK

#### **Session 15**

Session Chairperson: Andrew Tang, Tian Chen Pyrotechnics Laboratory (TCPL), PRC

11:00 Effects of Firework Size and Chemical Composition on "Audible Effect" - Aaron Orland, National Fireworks Association, USA

11:30 From Stardust to Stardust: The Story of how Robert Burch was Memorialized into Fireworks using a Novel Method for a Public Display — Paul Marriott, Montréal, Canada, and Jesse Veverka and Jeremy Veverka, USA

12:00 **Fireworks in Times of Covid -** Paul Philipsen, Founder of Pyrofoor de Amsterdam BV, The Netherlands

12:30 **History and Evolution of Designing Fireworks Displays** – Jorge Mauro Márquez Márquez, Lux Pirotecnia, S.A. de C.V., México

Presentation on Venue for next ISF

#### 13:00 Closing Remarks



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## Notes

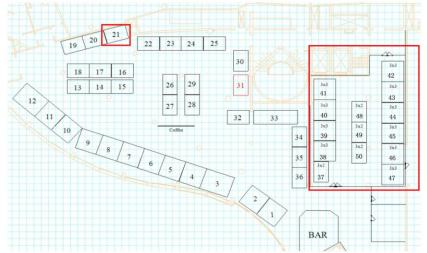


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After Dark Fireworks Import And Export Trade Of Liuyang Co.,Ltd	48
Hunan Kefu Firecracker Industry Co.,Ltd	49, 50



## **ABOUT US**

What is the greatest cohesive power of an organisation? The story itself. Despite the young age of our company, our co-workers share a common past and experience. We speak the same language, represent one story as well as have a common vision, therefore, each colleague is motivated to cooperate and attain the goals. Thanks to the added values and our common goals, we are constantly expanding our services.





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17th ISF - Puerto Vallarta

Home of fireworks in China

中国烟花爆竹之乡

Welcome to Shangli

上栗欢迎您

# Chestnut cracker 上票税炮



#### General situation of Shangli County 上栗县情概况

Shangli county, located in the northwest of Jiangxi Province, has been the thoroughfare of Jiangxi and Hunan since ancient times, the throat of Wu and Chu, and the western gate of Jiangxi to open to the outside world. In 1971, the district was set up, and then in 1997, the district was set up as a county. It has jurisdiction over 4 towns and 4 townships, 142 villages (communities) with a total population of 470,000 and an area of 650 square kilometers.



#### Industry Situation of Fireworks and firecrackers

#### 上栗烟花爆竹产业情况

Shangli, known as the "Hometown of Chinese fireworks", has always been the main production area of fireworks in China. Fireworks industry has constantly been the traditional pillar industry of Shangli, but also the livelihood industry of enriching people and strengthening the county. The whole industry has formed a complete upstream and downstream industrial chain of raw materials, printing, production, storage, trade and logistics, employing about 100,000 people.



"Shangli Fireworks and firecrackers" has a market share of more than 25% in China, covering more than 20 provinces and cities across the country, and exported to Southeast Asia, Europe, the Middle East and other more than 60 countries and regions. In 2022, the total output value of fireworks in the county was about 15 billion yuan, with a year-on-year growth of 28.4%. The annual business income of fireworks and firecrackers export trade reached 1.567 billion yuan, a increase of 8.37% year-on-year. There are 228 fireworks and firecrackers enterprises in the county, including 71 Up-scale Enterprises (with annual main business income of 20 million yuan or above) and 39 export enterprises, and 8 specialized and sophisticated enterprises that produce new and unique products, 3 Enterprises including Shengding Firewors, Jiangfeng

Fireworks and Jinping Firework had been recognized as the National High-Tec Enterprises. Fireworks products in 9 categories of more than 4000 varieties, including firecrackers, spray flowers, rotation, lift-off, beads, toys, fireworks, shelf fireworks, combination fireworks and so on.

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- >>> Headquartered in Liuyang, China. Across the street from Fabio's Restaurant.
- >>> Dominator is the #1 brand of Dun Pai Fireworks Company.
- >>> CE You have access to our families of CE that continues to grow each year.
- >>> We offer a full lineup of items from the smallest toys to display shells.

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## BEIHAI XINYU NEW MATERIAL TECHNOLOGY CO. LTD



**SUPER SNAPS** 

SUPER SNAPS
1.4S UN0337
CASE PACK:6/24/20
TUBE SIZE:
Φ0.6cm\*L2.6cm
UNIT WEIGHT:1g/pce

NEC:0.016g

G. W.:8kg/ctn N.W.:6.5kg/ctn EX:2018092115







#### FIREWORKS FACTORY

The products are produced by self-owned factories, which are equipped with independent laboratories to control the quality and safety through the inspection of raw materials, pharmaceuticals and finished products. Testing items include: raw material particle size and purity analysis, thermal stability test and 12m drop test of transport packages. Under the standard management and strict quality control, we can provide you with first-class quality, safe and reliable products.



MATCH CRACKER

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