

## Polymer Extrusion Spinning Machinery Center



*“Faster than  
a BULLET,  
Slower than  
a TURTLE”*

*Dr.Yusuf A.USKANER*

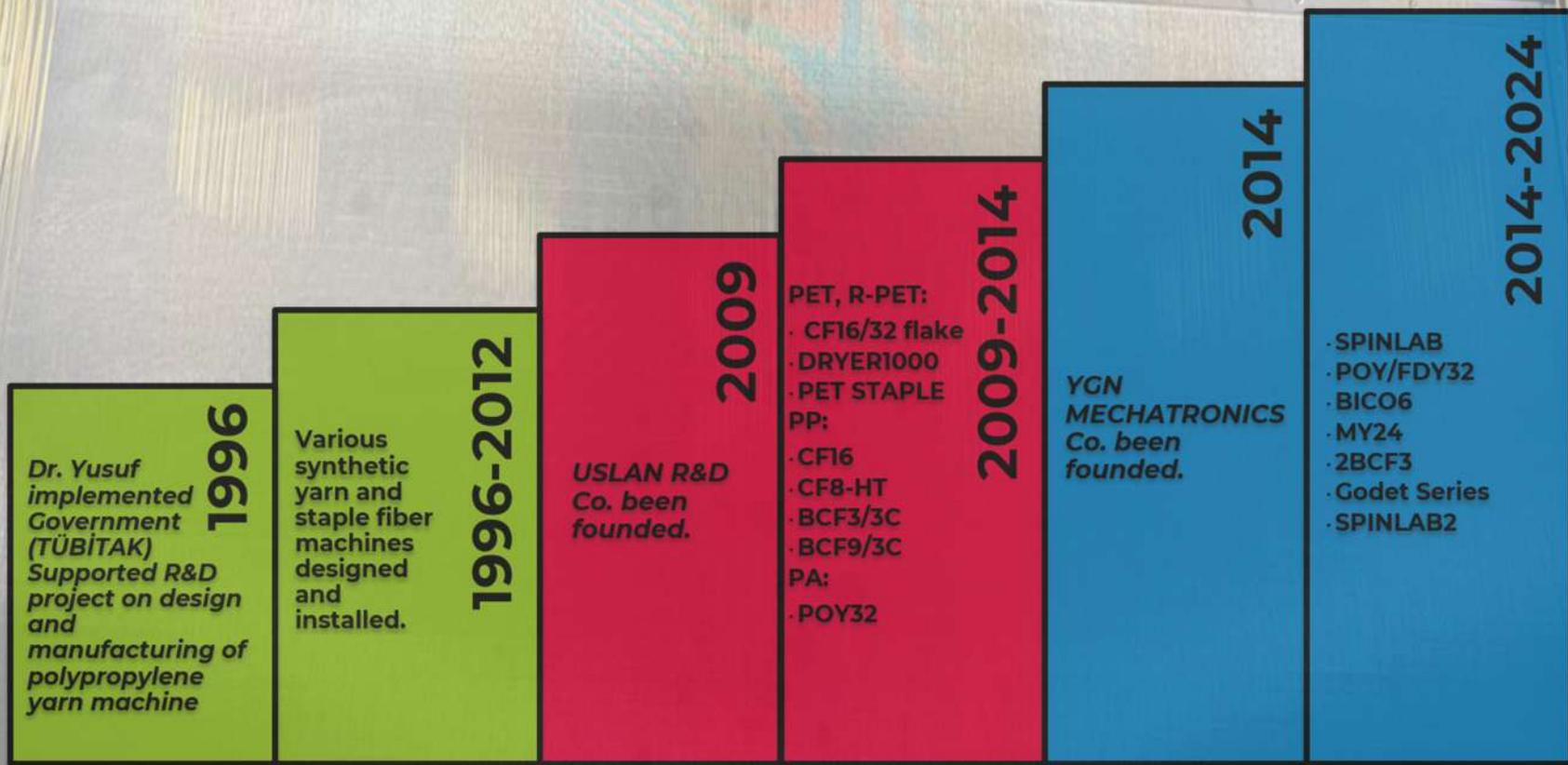


## ABOUT US

The journey into the sector began with the TÜBİTAK-TİDEB project titled "Design and Manufacturing of Polypropylene Yarn Production Machine" in 1996. Following the success of the project various desing and installation such machines done between 1996-2012. In 2009, the establishment of USLAN R&D company in Gaziantep Technopark continued to enable the realization of ongoing research, accumulated knowledge and experience through R&D activities. Then, in 2012, the USLAN R&D Laboratory was established in an area of 1500 m<sup>2</sup> within the Gaziantep 1st Organized Industrial Zone, to initiate the manufacturing process. In 2014, to separate the manufacturing and automation sectors; YGN MECHATRONICS LTD. was established, thus while USLAN transformed into a brand identity, YGN became a structurehandling production and automation tasks. USLAN R&D and YGN Mechatronics sustain their presence in the sector by conducting R&D activities on various projects and establishing production facilities in different parts of the world. In short, USLAN and YGN are organizations that produce technology and innovate, characterized by their structure, establishment philosophy and operation.

## HAKKIMIZDA

1996 yılında "Polipropilen İplik Üretim Makinası Tasarımı ve İmalatı" konulu TÜBİTAK-TİDEB projesi ile başlayan sektöre giriş süreci projenin elde ettiği başarı sonrasında 1996-2012 yılları arasında çeşitli makinelerin tasarım ve kurulumunu gerçekleştirmiştir. 2009 yılında; yapılmakta olan araştırmaların, edinilen bilgi birikimi ve deneyimin, Arge çalışmaları ile hayata geçirebilmesi adına Gaziantep Teknopark'ta USLAN ARGE Adlı şirketin kurulması ile devam etmiştir. Ardından 2012 yılında, Gaziantep 1. Org. San. Böl. 1500m<sup>2</sup>'lik bir alanda USLAN AR-GE Laboratuvarı kurulmuş ve imalat süreci başlamıştır. İmalat ve otomasyon birimlerini daha sistematik ve üretim odaklı ayırmak üzere 2014 yılında YGN MEKATRONİK LTD. ŞTİ'yi kurulmuş böylece USLAN bir marka kimliğine dönüşürken YGN üretim ve otomasyon işlerini yürüten bir yapı haline gelmiştir. USLAN ARGE ve YGN Mekatronik olarak sektördeki varlıklarını farklı projeler üzerinde AR-GE çalışmaları yaparak ve dünyanın farklı yerlerine kurdukları üretim tesisleri ile sürdürmektedirler. USLAN ARGE ve YGN MEKATRONİK; yapısı, kuruluş mantığı ve işleyişi ile teknoloji üreten, inovasyon yapan kuruluşlardır.



**28 years experience in polymer extrusion yarn spinning systems.**

## USLAN SPINLAB

Different colors, different polymers and different yarn types...

With common systems producing continuous filaments may not sense everytime in terms of testing or sampling.

A lab scale machine is helpful for testing and sampling purposes with a perspective of simulating real machines.

### POY/FDY



- Easy thread up for POY
- Qualified POY samples

### FDY/BCF



- Three step draw line
- BCF Texturizing unit
- High Efficiency Air Jet
- Alternative thread path for POY

### Specs:

- 15 kg/h extrusion capacity
- Special screw features for maximum mixing
- Automated extrusion pressure
- Single spinpack with different spinnerette options
- Adjustable quench air
- Heated and Automated Godet Rollers
- Single bobbin winder
- Up to 4500 m/min winding speed
- Low energy consumption
- Auxiliary equipment for staple fiber

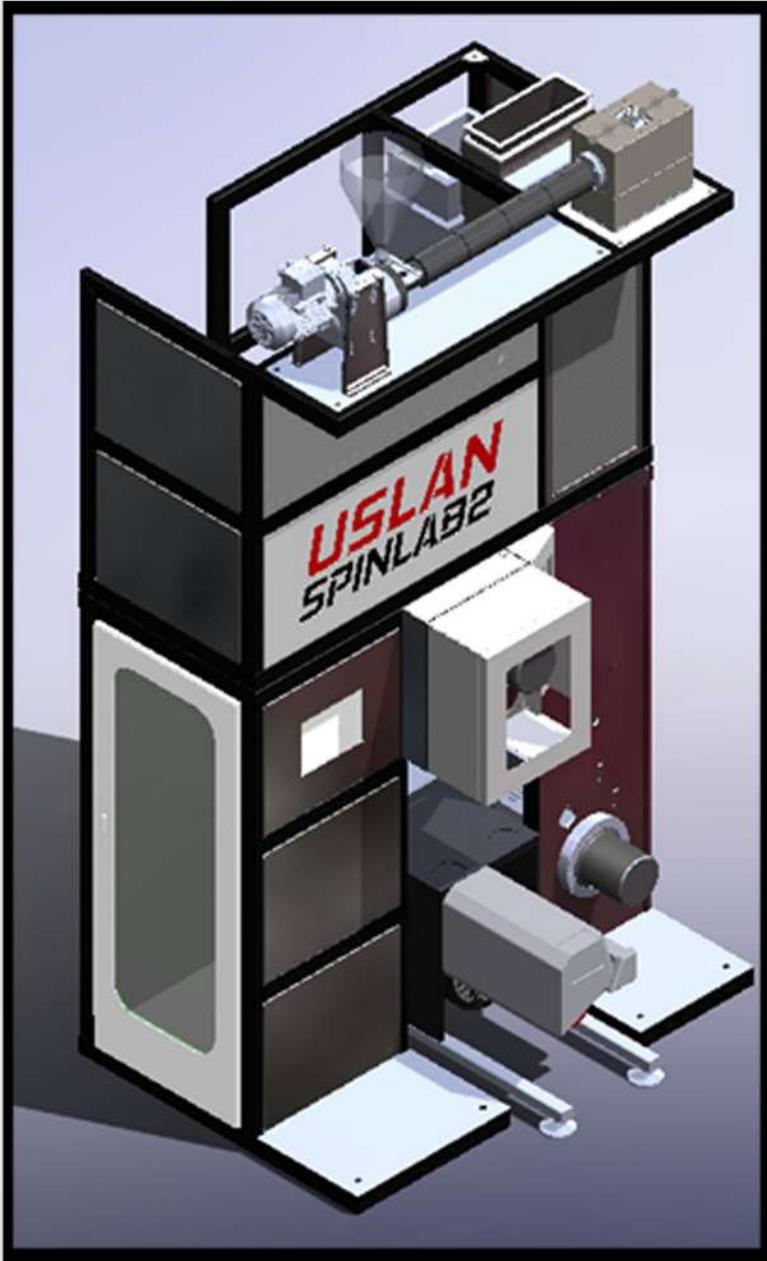
## USLAN SPINLAB 2

**R&D is the key for the best...  
SPINLAB has evolved to produce small amounts...  
Variable polymers for POY and FDY yarn types**

### Specs:

- 15 kg/h extrusion capacity
- Special screw features for maximum mixing
- Automated extrusion pressure
- Double spin pack with different spinneret options
- Trackable spin pack pressure
- Adjustable quench air
- Speed controlled and Heated Godet Rollers with Separator Rollers
- Double bobbin winder
- Up to 4500 m/min winding speed
- Low energy consumption

Separated functional floors: Most of spinning lines have same extrusion features. The key is drawing line and it is configurable for SPINLAB2.



## USLAN POY/FDY

**“Flexibility is a Great Plus”**

- POY is the most common feature of synthetic fiber market
- High denier and dope dyed POY provides greater value
- POY and FDY gathered by a single configuration

Specs:

- Single or Double positions per extruder available
- Higher denier with high number of filaments together
- Up to 3500 m/min winder speed
- Humidified and seperated quench air
- Accurate extruder and spin pack pressure control
- High performance gravimetric dosing unit
- Tension regulation by ceramic coated godet



**“Super Bright Effect”**

- PET crystallinity leads to the sparkling effect of the yarn
- High denier and dope dyed POY provides greater value
- High performance godets with high temperature provide shrink resistance



**Specs:**

- High performance gravimetric dosing unit
- Single or Double positions per extruder available
- Higher denier with high number of filaments together
- Humidified and seperated quench air
- Up to 4500 m/min and 200 °C temperature ceramic coated godet duos with insulation box for better annealing
- Up to 4500 m/min winder and Godet speeds
- Winder options available 6-8-10-12 ends

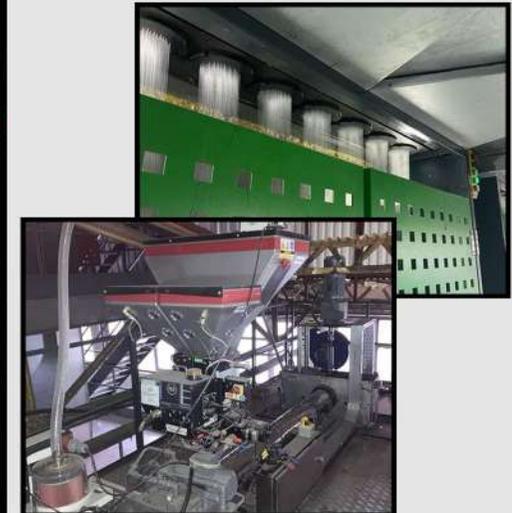
## USLAN CF

- General identification for all multifilament systems.
- High performance extruder, each for one or two positions.
- Wide range of temperature on spinbeam.
- Each position can configurable as 6-8-10-12 ends.



### Specs:

- 300 denier with PP 1 tons/day
- 600 denier with PP 2 tons/day
- PET, PA, PA66, PBT FDY available with special accessories
- Automated and regulated polymer pressure
- Trackable spin pack pressure
- With high temperature heated godets better shrinkage resistant yarn.
- Capacity can be increased by increasing the number of extruders



**Bulked Continuous Filament (BCF) yarns are engineered to deliver maximum crimp and excellent resilience**, making them ideal for flooring applications that demand durability and dimensional stability. These yarns are designed to provide **maximum surface coverage with minimal material usage**, ensuring both cost efficiency and performance. Additionally, **tricolor yarn options are available** to enhance visual texture and aesthetic appeal in finished products, offering versatile design flexibility without compromising functionality.



CamRoll Application



CPC Application

<b>Polymers</b>	PET, PA, PP, PBT, PLA, HDPE
<b>Number of Ends</b>	2 or 3 ends (design-dependent)
<b>Number of Positions</b>	Single, Double, Triple positions or multiples thereof
<b>Line Speed</b>	Up to <b>3500 m/min</b> (depending on production denier and capacity)
<b>Yarn Linear Density (per end)</b>	800 – 5000 dtex
<b>Filament Linear Density</b>	1 – 40 dtex per filament
<b>Number of Filaments</b>	Up to spinneret design (max. <b>3 × 200 filaments</b> )
<b>Key Features</b>	<ul style="list-style-type: none"> <li>▪ Yarn sensor</li> <li>▪ Automated yarn cutting device</li> <li>▪ Power analyzer</li> <li>▪ Raw material spinning capability</li> <li>▪ Various spinneret hole cross-sections</li> <li>▪ Tricolor cam roller &amp; CPC applications</li> </ul>

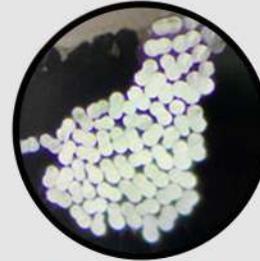
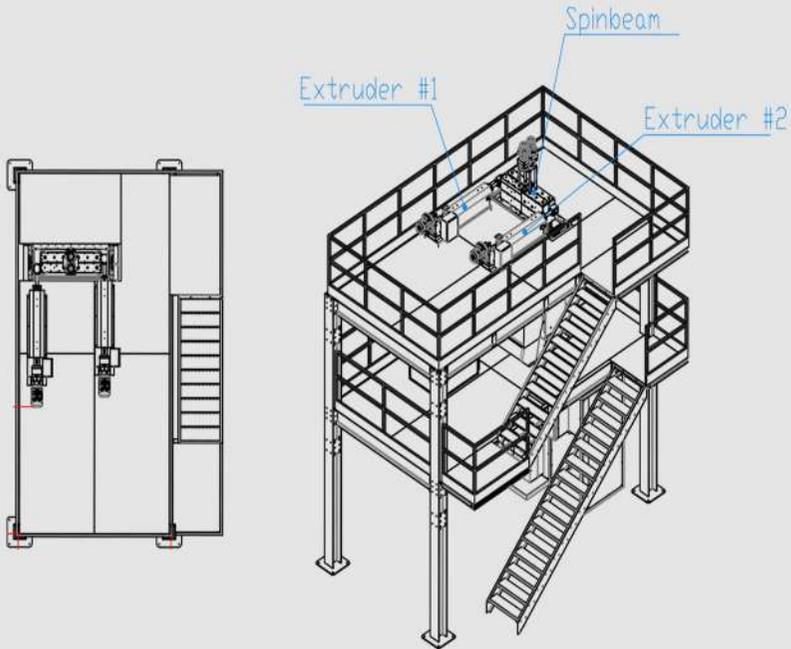
## USLAN HT SERIES

- Durable yarns for geotextile, agriculture, safety textile, defense industry and much more area...
- High Temperature Godet Rollers for better annealing and drawing yarn
- Higher tenacities using higher IV values.
- Different polymer production possibilities

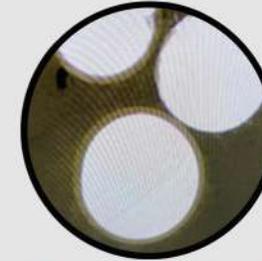


## USLAN BICO6

Composite showed and textile followed...  
 Different polymers united as one for better functional yarns and fabrics "Side by side" or "core and sheat" else POY or FDY different perspectives for functional textiles.



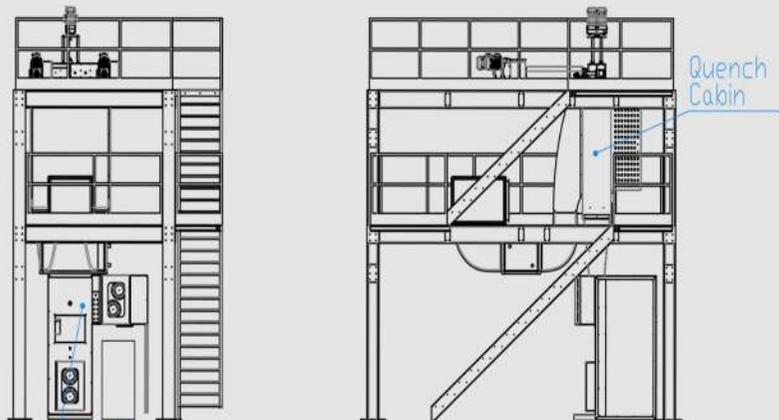
Side by Side



Core and Sheat

### Specs:

- Double extruder, 25 kg/h capacity per extruder
- Special screw features for maximum mixing
- Automated extrusion pressure
- Spinbeam with 6 spin packs
- Trackable spin pack pressure for each polymer
- Adjustable and unified quench air
- Speed controlled and heated godet roller duos
- Single draw, POY and FDY available thread path
- One position with automatic winder with 6 ends
- Up to 4200 m/min winding speed
- Monocomponent usable



Drawing Unit

Winder Hollow for 6 ends





Y  
G  
N  
C  
F  
B

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