

Thunderbolt, Luna Park



COURTESY OF ZAMPERLA

The Evolution of Zamperla

From Kiddie Rides to Thrill Coasters By Adam Sandy

The W.F. Mangels Company, the Allan Herschell Company, Arrow Development, Anton Schwarzkopf GmbH — so many of the ride manufacturers from previous generations are gone. Some were acquired, others just closed up shop. One of the exceptions is Zamperla. Founded in 1966, the Italian company has grown to be one of the largest ride manufacturers in the world.

Historically, Zamperla has not been thought

of as a key coaster company. However, according to RCDB.com, the company has produced 368 coasters. In addition, over the past decade, the Italian firm has taken concrete steps to improve its product. This summer, Antonio Zamperla Jr., Zamperla's CEO, said, "Our mission is clear — when it comes to roller coasters, we want to be the first choice of parks worldwide. In every market segment we have entered (kiddie rides, family rides and thrill rides), we have excelled because of our commitment to quality and

innovation. I know our roller coaster division will see the same success."

To understand this leap in the company's coaster capabilities, one has to go back to the beginning. The Zamperla family used to travel to piazzas throughout Italy with a projector and show movies. Antonio Zamperla started moving go karts he built from city to city. Alberto Zamperla, the company's president, said that his father transitioned to making attractions. He shared, "We arrived at the 1960s economic

boom in Italy. So, the carnival people were asking my father, 'Why you don't build a ride for me?' And we, at that point in the 1960s, we started to manufacture rides."

Zamperla began as a small shop. Mario Nardin, who eventually ran the production facility, was one of its first employees. He noted that during that time the company was producing small attractions and portable food stands.

In the early days, Antonio Zamperla and Nardin spoke a lot with French showman Lusse (of bumper car fame) about what rides they should produce. Lusse had married into a showman's family and was able to provide some insights. At that time everything was built on a trailer because Zamperla was selling to portable ride owners. The company made significant inroads in sales. The company's 1969 concept, the Mini Bumper Car, was an instant success. It was followed by games of strength in 1971, and four years later the firm produced the Mini Avio (Mini Jet). In addition, the company worked with Lusse; components for many of the famous Lusse bumper cars were manufactured by Zamperla.

For the first 14 years, the company focused on hard work and growth. Early team members worked six days a week and sometimes only got a few hours' sleep as they scrambled to get rides out the door. It was a lot of work, but the team was dedicated, and the company expanded its offerings. As they continued to analyze the market, the company understood it needed to sell coasters.

In 1976, Pinfari opened *Valle degli Gnomi* (Valley of the Gnomes) at Fiabilandia. The attraction was a slow, outdoor gravity coaster with scenes, but the fiberglass face it sported was iconic. The smiling caterpillar was designed by artist Armando Tamagnini. Pinfari used the face over and over for its Brucomela roller coasters. Literally translated it means "caterpillar." The caterpillar's goofy face and the large fiberglass apples became the hallmarks of Pinfari's Big Apple coasters. Kids loved the iconic look of the ride, and other manufacturers took note. Soon this children's coaster concept, generically named Wacky Worm, was found worldwide.

Zamperla wanted to sell something equally iconic. In 1980 they built the Tornado, a basic powered ride. Two years later, the company brought a team together to create an improved version, Dragon Coaster. An on-board motor made it faster, and the layout made it more interesting. Tamagnini created the theming, which was detailed for a coaster of this size. Small touches like the large dragon head and twin tail made the ride stand out at a fairground.

Nardin described the start of the Dragon Coaster project: "I went to see Gianni Cicchelerio at one of our subcontractors, Bonato. We drew up the Dragon Coaster concept on an A4 piece of paper. It was a single loop on a base and used 60.3 mm (2.3 in) pipe, which is very small by today's standards. With his experience in portable attractions, Antonio felt we should use the lot



This photo from an IAAPA in the 1980s shows (bottom, l to r) Carlo Gugliemi (sales), Antonio Zamperla, Alberto Zamperla and Tom Wages; (upper row) unknown, Michele Marconato (technical) and Andrea Cielo (sales).

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This factory picture from the mid-1980s shows a Balloon Wheel in production, most likely for West Edmonton Mall.

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Valle degli Gnomi, Fiabilandia (Italy)

PHOTO BY LISA SCHEININ



Dragon Coaster

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Jormungandr is a retheme of Drayton Manor's powered ride from Zamperla, formerly known as Buffalo Mountain Coaster.

COURTESY OF DRAYTON MANOR



Wild West Mine Train, Ocean Park (China)

PHOTO BY DAVE ALTMAN



Windstorm, Old Town

PHOTO BY MICHAEL HORWOOD

size for showmen as the dimensions for the concept so it could fit any fairground site — and that is how we created our critical dimensions.”

“We kept the curves into and out of the station from the Tornado and redesigned the rest,” said Cicchelerio, a longtime Zamperla employee. “We built the hill first as our tallest point and worked out the rest of the design from there. It was more design-as-you-go than how we do things today. First, the outer rail was built on scaffolding, then the inner rail, and finally we fabricated the supporting structure.”

While Cicchelerio started as a subcontractor, he eventually joined the company and ran Zamperla’s coaster production.

The Dragon Coaster, now called the Powered Coaster, is still sold today. When asked about his installation, Manuel Valdez, general manager at IRTA (Guatemala), said, “A roller coaster that represents important numbers and is a winner in the cost/benefit analysis is our iconic Dragon. It maintains a high demand with a lower operating cost compared to other roller coasters; even with more than 25 years of operation, it is one of the favorites and iconic for our visitors.”

Zamperla’s first coaster became a blueprint for the company over the next 35 years. The team was not looking to build the tallest or fastest roller coaster. Instead, the goal was to design rides that worked well for a majority of customers across the market — showmen and amusement parks, growing parks and small-ride owners alike. In addition, the company focused on products that would result in the sale of multiple units and the engineering achieved a good return on investment.

In the 1970s, Antonio Zamperla’s son Alberto opened the company’s first international office in Montreal. It later moved to New Jersey.

“My father was always dreaming about America, explained Alberto Zamperla. So, he decided to open an office in [the] United States, and he told me, ‘Alberto, so you go to America.’ I was about 24 years old when I came to America to open my sales office.”

“If you look at our company’s history, my grandfather was a builder. He worked with his hands and made the rides. My father was an amazing salesman, and he expanded our footprint, so we grew outside of Europe and sold worldwide,” explained Antonio Zamperla, Jr.

Dragon and Tornado sales started to slow in the 1990s but remained steady. The company did some funky one-off projects like the *Wild West Mine Train* at Ocean Park (Hong Kong); *Alucinakis*, a wood support, steel-tracked coaster at Terra Mitica (Spain), and a Windstorm clone for Old Town (Florida).

The news in the 1990s was focused on Euro Disneyland in Paris. Zamperla sold seven rides to the Disney company and had to adapt quickly. Disney’s design criteria were more stringent than any other customer that Zamperla had worked with before, so they needed a large team dedicated to this important ride package. “The Disney experience was fundamental for

Zamperla. Not just for the company, but also especially for our engineers. New computing methods, more attention to safety, more attention to details. From a commercial point of view, when other amusement parks found out we had such a big contract with Disney, we didn't need any more references," said Alberto Zamperla.

Antonio Zamperla Jr. added, "Working with Disney improved our quality and took us to the next level in terms of both engineering and quality assurance. They really pushed us to find new solutions. It was one of the most challenging times we faced as a company, but we came out the other side a better manufacturer."

Zamperla started to diversify as a company in the 1990s. The Crazy Bus was the first ride that was designed as a true family attraction — an experience geared toward children but with restraints designed so parents and kids could ride together. This continued with other attractions like the Lolli Swing and Speedway. All of these could be packaged together and sold as themed children's areas. At the time, some of the older Herschell and Mangels pieces were wearing out. Instead of continuing to repair them, parks asked Zamperla to replace their aging attractions.

The late 1990s and early 2000s were not only the era of "the coaster wars" but also a time when companies like Six Flags made significant investments in parks worldwide. Looney Tunes-themed children's areas started popping up all over, and these needed an anchor attraction.

The company answered the call with the Family Gravity Coaster (now called the Family Coaster). Forty-seven were produced with the first five opening in 1999 at three Six Flags parks, Boomers! (Medford, New York) and Holiday World (Santa Claus, Indiana). It was a modern take on the classic Schiff and Herschell kiddie coasters.

The Zig Zag coaster, Zamperla's Wild Mouse, opened at Morey's Piers in 1998. A Wild Mouse craze had hit the industry and parks worldwide, especially those in North America and Europe. Parks were purchasing this style of coaster owing to the ride's compact footprint and wide rider profile.

The design focus was simplicity. While others were experimenting with linear induction motors, linear synchronous motors (LSMs) and other technology, the company's goal was to create coasters their clients could easily operate and maintain. Some of those operators were smaller parks worldwide; others were corporate groups that needed an affordable workhorse they could add to their coaster collection. In addition, Zamperla served a different market at the time. The North American office was very focused on trailer-mounted rides because of the strength of the U.S. carnival market. Almost every attraction Zamperla produced had to be potentially portable or at least available on a base frame.

This was important for a few reasons. First, the coaster could be set up at Zamperla and run through its paces. Second, for clients looking to finance their investments, a stand-up base made



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Pindsvinet, Färup Sommerland (Sweden)



PHOTO BY DAVE HAHNER

Howler, Holiday World



PHOTO BY RUS OZANA

Doo Wopper, Morey's Piers

Crazy Mouse, DelGrosso's Amusement Park



PHOTO BY RICHARD KOPPELMAN



Ragin' Cajun, Six Flags Great America

PHOTO BY BOBBY NAGY

Torbellino, Parque Diversiones (Costa Rica)



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The Volare flying coaster became a good seller for Zamperla starting in 2002 and lasting just over a decade.

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the ride more appealing to lenders. Coasters attached to foundations required significant in-ground costs, costs that banks did not finance. By putting a coaster on a base frame, a park could pay for a simple concrete slab out of pocket, and a majority of the ride costs could be financed.

During the 2003 IAAPA Expo, Alberto Zamperla and Gilles Reverchon held a joint event and announced a partnership between the two companies. Together they sold two spinning car coasters — one to Six Flags Great America (Gurnee, Illinois) and the other to DelGrosso's (Tipton, Pennsylvania) for the 2004 season. After the agreement was signed, Zamperla engineers went to the Reverchon installation at Kennywood and saw how things could be improved. The team addressed some design issues that were causing fatigue and suggested changing to an individual lap bar. The following year Zamperla

sold more units with the improvements, then both companies ended the partnership. Zamperla subsequently made the Twister Coaster one of its best-selling models. Engineers also designed custom layouts, like a Twister Coaster that would through MOI Park in Turkey. On the heels of the Twister Coaster, Zamperla pushed forward on their largest coaster concept yet — the Volare.

Vekoma opened its prototype Flying Dutchman flying coaster as *Stealth* at Paramount's Great America (Santa Clara, California) in 2000. Zamperla's Kite Flyer ride was a huge success with its laydown position; the company started working on a coaster that could fit the bill. For the Volare project, the design team used a lot of features that had led to success in the past: no foundation, a small footprint and a marketable new experience. There were some other improvements on the designs of rides that existed in the market. The spiral lift required a

minimal amount of space and kept the sun out of the rider's eyes. The station allowed riders to step into the vehicles, which simplified the transition to a flying position. Zamperla also structured the project like a traditional coaster company, utilizing Stengel Engineering for ride design and a German specialist for the vehicles.

While the improvements were good ones, the overall ride experience was not great. The coaster tried to do too much in an extremely compact space.

"We went to Stengel Engineering with the concept and made it as small as possible. The design stood 50 x 20 meters (164 x 65.5 feet), roughly the size of several former Schwarzkopf and Pinfari Zyklon models," said Valerio Ferrari, Zamperla's chief sales officer.

The vehicles ended up being the most challenging aspect of the ride.

"We had planned to work with Eberle, who



Hero, Flamingo Land (United Kingdom)

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Moto Bala, Mundo Petapa (Guatemala)

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Darien Lake's Moto Coaster is seen here at the Zamperla factory as it finished production.

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Pony Express, Knott's Berry Farm

PHOTO BY S. MADONNA HORCHER

designed a lot of the vehicles in the 1990s for various manufacturers (Premier, Gerstlauer, etc.). But they were not able to design a vehicle that worked, and we brought that process in-house," said Alberto Ferri, Zamperla's roller coaster division director. "The coaster structure was assembled in our yard for about a year before the vehicles were completed."

Despite the setbacks, the ride sold well. The prototype, *Flying Coaster*, debuted at Six Flags-owned Elych Gardens in 2002, with seven more subsequently opening. The ride was a mechanical success — all of the Volares are still operating — but the tight transitions gave the coaster a reputation for being rough. Ramon Rosario, sales director for the Americas, said, "Our approach is always, 'Never say no.' We want to be responsive to the market. However, the Volare was a flat ride company's interpretation of a coaster, and that's where we fell short."

Six years later the company debuted the Moto Coaster, which featured a lot of the same selling points as the Volare: unique rider position, base frame and marketable ride attributes. The company started utilizing more knowledge transfer at this time. It repurposed the Disk'O restraint (a popular Zamperla flat ride) with added flaps around the ankles for rider containment. Engineers also looked at various launch systems and settled on the flywheel, similar to what the Schwarzkopf Company used. However, when it started working with a German subcontractor from the Schwarzkopf time period, Zamperla found the company did not have the technical expertise needed. "We brought that part of the project back in-house," said Ferri. "Our team ended up engineering that part ourselves and made a significant number of improvements over the Schwarzkopf system," he recalled.

The prototype was almost sold to Canada's

Wonderland (Vaughan, Ontario), but during the contractual stage, Cedar Fair purchased Paramount Parks and the project got canceled. The prototype ran for a while at the factory and later opened at Darien Lake (Darien Center, New York) in 2008 as *Moto Coaster*. That same year, a custom version, dubbed *Pony Express*, opened at Knott's Berry Farm (Buena Park, California), and two years later a picturesque installation, *MotoGee*, opened at Särkänniemi Amusement Park in Finland.

"The *Pony Express* layout was challenging because it had to go over the train tracks and midway twice. We ended up cutting three feet off a building roof in order to fit the coaster," said Jay Crisler, head of Zamperla's engineering and service in North America.

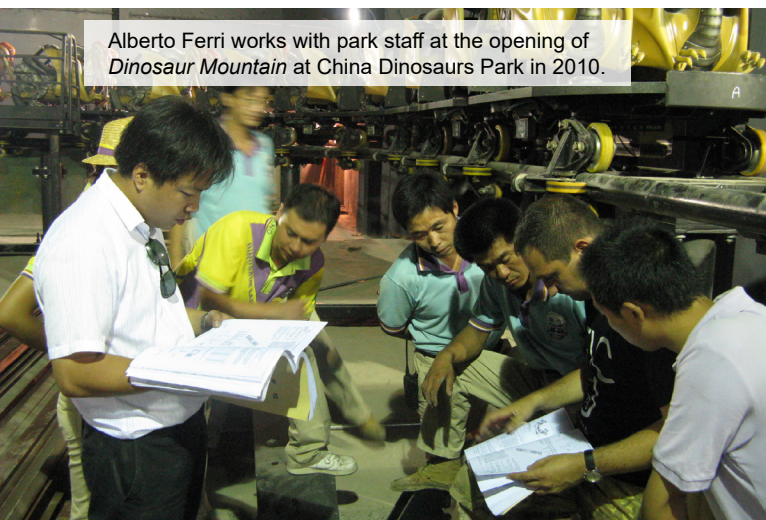
"You learn a lot on every project, but with the Moto Coaster we grew the most," Ferri noted. "We started looking at coasters in a different

Luna Park



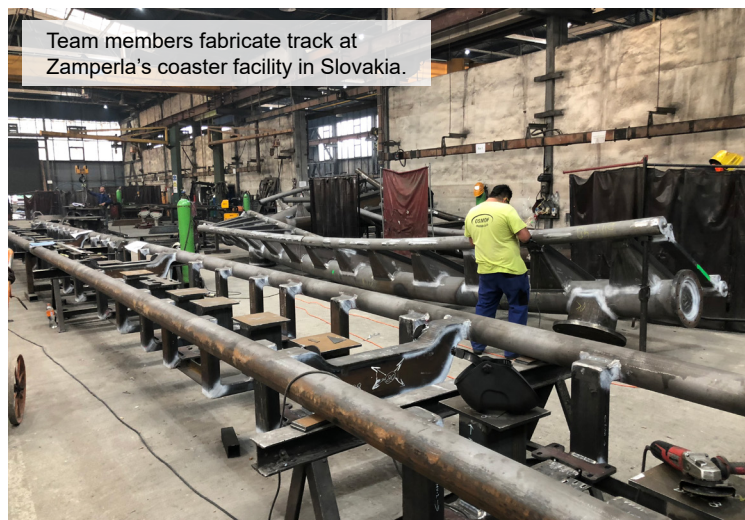
PHOTO BY GARY SLADE

Alberto Ferri works with park staff at the opening of *Dinosaur Mountain* at China Dinosaurs Park in 2010.



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Team members fabricate track at Zamperla's coaster facility in Slovakia.



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way. We started thinking like a coaster company. We went to a kingpin arrangement, we got a lesson in technology as we designed the launch system, and the restraint showed us how we could better utilize our existing technology in coasters. Zamperla just became a better coaster company."

As the company embarked on new standard coaster concepts, it continued to invest in making better track.

"One of the biggest challenges was translating from 2-D drawings to real-world fabrication," said Ciccheler. "During this time, the introduction of 3-D technology opened a world that was much easier to position in this space properly and check the quality of work."

In 2007, lasers and other tools made it easier to measure completed track and ensure tighter tolerances.

Three years later, *Dinosaur Mountain* was

another significant step in the company's coaster evolution. The attraction was a Gravity Moto Coaster at China Dinosaurs Park. This was the first time many of the design protocols that have since become standard were put into place. "We had good kinematic control, a detailed interference check. Overall that project just had us step up," said Ferri.

That same year, Zamperla, under its operation arm Central Amusements International, won the contract to operate a brand-new park at New York's Coney Island. The company transformed the former Astroland site into Luna Park. The theming harkened back to the heyday of the famous Brooklyn beach; even the front entrance near Surf Avenue was a reminder of Thompson and Dundy's Luna Park. The contract was awarded in early 2010, and in less than six months, the company transformed an empty lot into an amusement park — a colossal

achievement. While the company continued to sell coasters, the next few years saw a focus on increasing Luna Park's ride collection and attendance.

"First came the clients we sold rides to and then getting Luna Park up and running was our primary focus," said Crisler.

"Luna Park was a huge opportunity for the company," said Antonio Zamperla Jr. "First, it was exciting because Coney Island is the birthplace of our industry. So many different innovations were executed in just a few square blocks in Brooklyn. This park allowed us to grow in so many ways. We can test our prototypes, so we better understand how the rides work. We gauge rider reactions to new concepts, and we can even refine our design after the first annual teardown. It has become a laboratory that allows us to design attractions that run great for decades after they first spin."



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Thunderbolt, Luna Park

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The capstone of the Brooklyn project was the *Thunderbolt* coaster. If that name is familiar, it is because the coaster uses part of the lot left over from another famous *Thunderbolt*, a wooden coaster designed by John Miller that operated from 1925 to 1982.

“We heard that the New York Economic Development Corporation was looking at developing the lot, but it was extremely narrow,” said Ferrari. “At first, I thought about something like a Schwarzkopf shuttle loop would best use the space. However, we wanted something with a little more marketability. After we thought about it, we decided to utilize a vertical lift and maximize the amount of track we could fit on the lot.”

Thunderbolt cars featured three seats across in three rows, for a capacity of nine. Ferrari said that at that time, Disney was focused on attractions with three seats because they saw a change in visitor make-up; many more families visiting their properties were two adults and one child. Zamperla felt it could jump ahead of the trend by designing nine-passenger vehicles.

After *Thunderbolt* opened in 2014, it produced the record revenue for Luna Park and quickly became one of the most popular attractions at Coney Island. In addition, it became an instant media darling. The *New York Times*, *NY Daily Mail*, *CBS News* and local affiliates showcased the new coaster, making it famous worldwide. However, the end product was not as smooth as the company wanted.

“Financially, it was extremely successful, and the project remains something we are very proud of. However, the timeline was extremely challenging for us to go from concept to operating in 15 months, and we would do things differently today,” said Ferrari.

“It was an intense year,” he continued. “We started work in March 2013, and 15 months later the coaster opened. We literally went from a conceptual layout with no vehicle or mechanical



COURTESY OF CULTUS LAKE ADVENTURE PARK

Runaway Mine Train, Cultus Lake Adventure Park (Canada)

drawings to opening the following summer. The project, especially the vehicle, was something that only happened because of our people.”

The combination of highs and lows that were part of the *Thunderbolt* project still encouraged the company to think about how it would move forward in the coaster universe, and the following year Zamperla stepped up its game. First, the new Junior Coaster system opened at Alton Towers (Staffordshire, England) and Cultus Lake Adventure Park (British Columbia).

“In consideration of adding a feature attraction to our small family amusement park, Zamperla stepped in with a proposal that transformed our park,” said Cultus Lake Adventure Park owner Chris Steunenberg. “First came the site visit and the imaginary flight through the trees and around obstacles with Michael Coleman [North American Sales]. *Runaway Mine Train* is our

feature attraction at Cultus Lake Adventure Park, and it literally winds through the trees and over our existing rides and mini golf. It has propelled our business from a simple and small ride park to a legitimate competitive and relevant amusement park. Since installation, our attendance and ticket prices have nearly doubled and [it] is a must-ride attraction in our park.”

Both coasters stood out. The Canadian installation is one of the few North American custom coasters from Zamperla and the first custom layout since *Pony Express*. The Alton Towers installation is where the company’s artistic capabilities shone through. The front of the train was a custom molded theme to the “Octonauts” children’s cartoon, and the coaster anchored the park’s new Bubbleworks area.

Also debuting that year was a custom coaster at Universal Studios Singapore (Sentosa), *Puss*



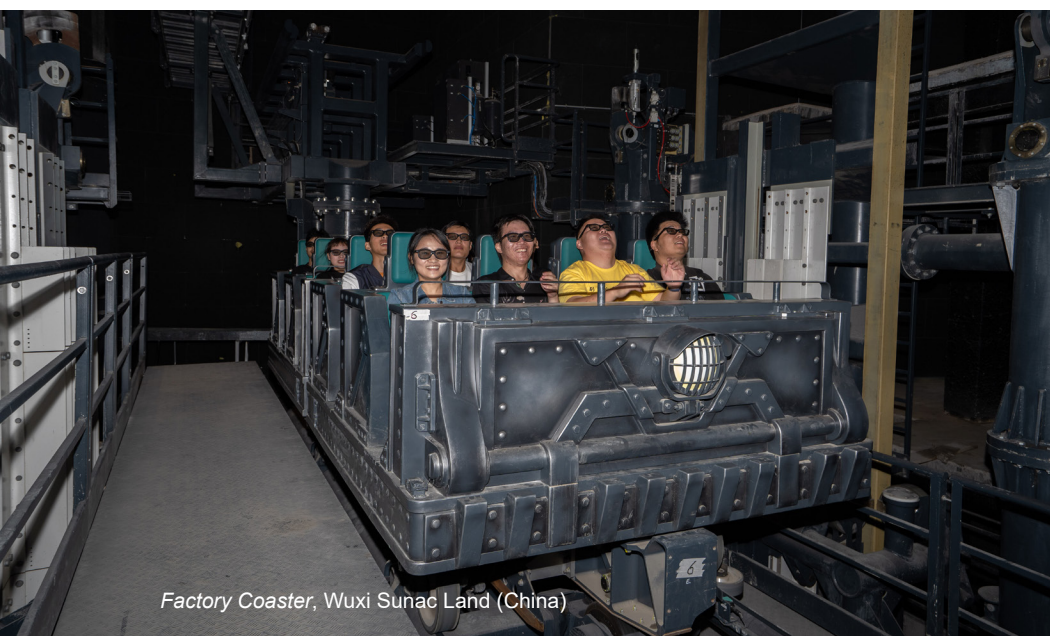
The spiral lift of *Puss In Boots' Giant Journey* at Universal Studios Singapore undergoes testing.

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The vertical drop element of the *Factory Coaster* was wired and commissioned in Vicenza before being shipped to China.

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Factory Coaster, Wuxi Sunac Land (China)

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In Boots' Giant Journey. The themed coaster is called a Nineinverted, as nine riders are suspended below the track. Keeping with the three-by-three seating arrangement, this coaster answered the call for a family-friendly attraction that could be heavily themed and ridden by a majority of parkgoers. The 105-centimeter (42-inch) height requirement put the coaster squarely in the broad appeal range. It remains a unique experience. Themed to the Dreamworks' intellectual property "Puss in Boots," the coaster is as much of an outdoor E-ticket dark ride as a coaster. Universal Creative designed an entire storyline and integrated massive 3-D sculpts and on-board audio. The coaster utilized the same spiral lift system as the *Volare*, and the park themed the entire lift to a castle tower turret.

"As most people in the industry know, working with Universal and Disney presents a lot of challenges," said Ferri. "Their engineering

requirements are stringent and detailed, so we had an entire team dedicated to just this one coaster," he noted.

By this time the company became more reflective and analyzed its place in the market. Rosario said, "At one of our large sales meetings I wanted to make sure that the rest of the team understood that we had the capability to do coasters, but we had to have the passions of people who love to ride. I asked our team, 'How many of us love to ride coasters?' I looked around and didn't see any hands raised, myself included. At that time there was no one who enthusiastically rode coasters. Alberto Zamperla and others in leadership knew that coasters are king, from marketing and sales perspectives. It was a business sector we wanted to excel at, but we needed to transition. We needed passion behind our designs."

Rosario noted that as social media grew in

prominence, Antonio Zamperla Jr. and others at the company saw how people had strong opinions about roller coasters and coaster layouts. Simple things like YouTube allowed people to see point-of-view rides of coasters around the world.

The sales team started bringing the company larger, more complicated custom projects that allowed the engineering team to prove themselves. This time period saw Zamperla doing stronger work as it honed and redefined its engineering to the production pipeline. March of 2018 saw a 35-meter (116-foot) custom Thunderbolt design open at Discoveryland in China, and four months later the new Super Twister concept opened at Warner Brothers Movie World in the United Arab Emirates. Four of the upgraded Twister vehicles were linked together in a train to offer better capacity, and combined it with a completely new layout and "Tom and Jerry" theming.

The following year, the custom projects continued. *Relámpago* at Mundo Petapa (Guatemala) was the first compact Thunderbolt model. It featured three inversions and 375 meters (1,230 feet) of track. A mirror of the *Luna Park Thunderbolt* opened at Gyeongnam Mason Robotland (Masanhapp-gu, South Korea). It was instantly popular and became the most-riden attraction at the property. A spokesperson for the park said, "More than 95 percent of visitors to Mason Robotland praise *Thunderbolt* as the most fun and the best ride. Koreans especially love the *Thunderbolt*, which is fast, powerful and has impressive movements."

However, one of the largest projects from this transitional time period was *Factory Coaster* at Wuxi Sunac Land (Binhu, China). The concept was first shared at the 2015 IAAPA Expo. The project took a while to materialize with the client, but the end product was a ride experience that combined two low-speed launches, one forward and one backward, as well as a freefall drop. The

last element was one of the largest individual coaster “tricks” the company had created; hence they erected a large tower at the factory and ran the system through its paces.

“This is when people from the attractions industry began to notice us more,” said Ferri. “We started winning projects like the Super Twister and the Factory Coaster and executed them at a different level. All of the work we had put into the coaster division paid off. We had projects in places that were not necessarily easy to get to like China, the U.A.E. and Guatemala, but the clients who visited noticed the quality.”

The company chose not to just focus on new designs to get the attention of buyers. Operating properties like Victorian Gardens (New York City), Luna Park (New York City) and Luna Farm (Bologna, Italy) taught Zamperla engineers how to create better rides.

“We went back to the drawing board in a lot of areas,” said Ferri. “Some of the key design work went to ensuring that every Zamperla coaster, from large thrill rides to the family coaster, had the same quality of internal systems and the latest design. We researched lighter materials for bogies and chassis manufacturing, updated our design philosophy with the intent of reducing or eliminating welds, and looked through all the components to better understand their corrosion rate. Cost of ownership, how much our clients had to spend to run and maintain our rides each year, became a critical design factor.”

A culmination of this design work was the Lightning vehicle. The company had been thinking about improving the Thunderbolt car, but instead designed an entirely new train. The engineering team moved to a modular solution and made the Lightning the company’s thrill platform. It could feature two to eight rows, be two or four seats wide, and work with a launch or lift. The idea was to create a typical system that could be used across platforms, minimizing the amount of long-term design work.

Work began in late 2018, and visitors to the 2019 IAAPA Expo noticed the differences from the Thunderbolt right away. The center of gravity was lowered, the wheelbase was shortened and the seat-to-seat distance was widened, allowing for faster load/unload times. But the most important features were what most IAAPA visitors glossed over — the technical details. The welded steel chassis was upgraded to aluminum, eliminating welds and lowering nondestructive testing costs. The seat foam could now be replaced by the operator affordably, and the restraints were completely redesigned for rider ergonomics. The vehicle was a major step forward.

The coaster division’s growth stopped in March 2020 owing to the COVID-19 pandemic. The world’s news cycle is understandably reoriented, and developments like the Factory Coaster and the Lightning vehicle lost their marketing traction. With nonessential construction stopped in New York City, another large Integrated Rides project at Luna Park was also delayed. The Super Flume and Junior

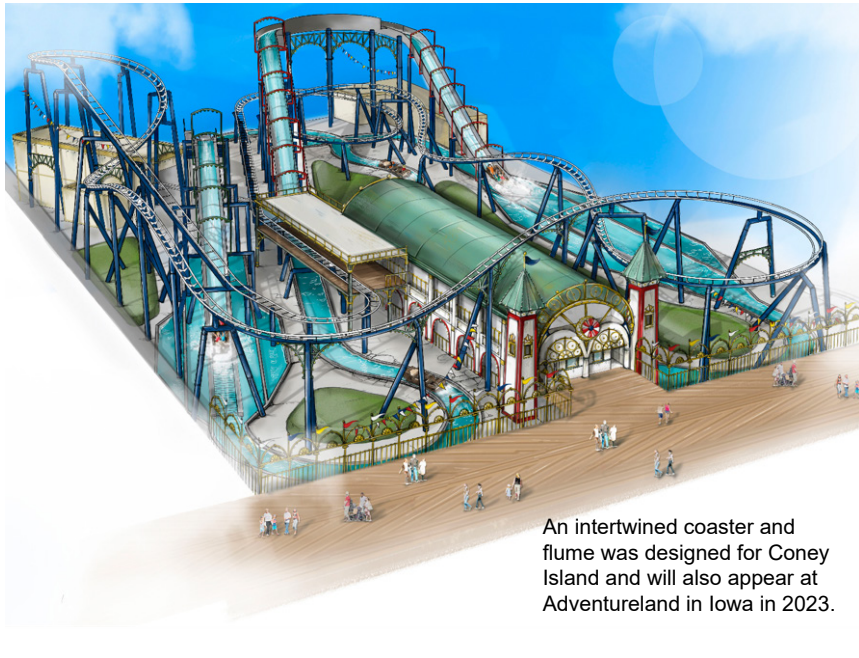


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Zamperla’s Lightning vehicle was on display at the IAAPA Expo 2021.

PHOTO BY CHERI ARMSTRONG



An intertwined coaster and flume was designed for Coney Island and will also appear at Adventureland in Iowa in 2023.

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Formula Rossa Junior

COURTESY OF FERRARI WORLD ABU DHABI



Double Heart

COURTESY OF ZAMPERLA

Coaster 400 were to be part of a large 2020 expansion but had to be shelved for two years.

However, in the summer of 2020 Zamperla opened a significant project, an Integrated Rides package at Ferrari World (U.A.E.). A custom Junior Coaster 200 opened with three other attractions (Speedway, WindstarZ and Sky Tower) within its footprint. All of the attractions showcased Zamperla's detailed theming, and the production department even drove to Maranello, Italy, to get the "Ferrari red" paint directly from the car company. The vehicle itself required months of back and forth as the company's team of artists worked with the famed Italian car manufacturer to get the lines of the vehicle just right.

2021 saw change accelerate for the coaster division. First, there were significant personnel

changes at the company. Antonio Zamperla Jr., who represented the third generation of family ownership, was promoted to CEO. Valerio Ferrari, who had spent the majority of his career running the North American office, returned from a few years as the CEO at Intamin to become the company's chief sales officer. Adam Sandy, an industry veteran who was the chief business development officer at Ride Entertainment, joined as the roller coaster sales and marketing director.

Like many companies during COVID, Zamperla took the time to assess its market position. Staff used their downtime to revisit concepts that were shelved when the company was too busy to analyze them. In March 2021 Zamperla announced that it would reveal a new ride every month through the November IAAPA

Expo. As part of the company's new concepts they shared:

- Double Heart: A triple launch shuttle
- Family Thrill Launch: A multigenerational launch coaster
- Family Coaster 155: An updated version of their classic Family Gravity Coaster, which featured the addition of a kid's-sized launch and debuted at the Peppa Pig Theme Park (Winter Haven, Florida) in the spring of 2022.

Much of 2021 was spent educating clients on the investments Zamperla had made in people and technology over the past five years, while also discussing some projects like Ferrari World that occurred during the pandemic. But it wasn't just projects; Zamperla had also heavily invested in talent and technology.

"We grew our team so that we don't outsource engineering to third parties. We are one of the few companies that can design a roller coaster truly in house," said Ferri.

With the growth of that team has come an entire group of engineers who also love coasters.

Federico Brancaleoni, a young roller coaster engineer at Zamperla, said, "As a coaster enthusiast, working for the Zamperla coaster team is a great honor. The experience of the older members and the new ideas of the youngest — the team is a great combination of talents that makes Zamperla's future bright."

Elisa Dall Alba, a mathematician and roller coaster designer, who has been with the company for nearly a decade, said, "The Zamperla coaster team has grown in recent years. We were best known for junior coasters and family rides, but with the Coney Island *Thunderbolt*, we gained experience with larger coasters and learned a lot. When I arrived at Zamperla, my colleagues were working on the *Thunderbolt*, and I saw how important this project was for the growth of the entire team."



Daddy Pig's Roller Coaster,
Peppa Pig Theme Park (Florida)

COURTESY OF THE PEPPA PIG THEME PARK



Octonauts Rollercoaster Adventure, Alton Towers (England)

PHOTO BY TIM BALDWIN

Rosario noted that the company's new generation of designers, who work hand in hand with the experienced engineers, are putting a new face on its coaster concepts. "Historically, our elements were basic; we only worried about getting from the top of the lift to the brakes. We saw designers like Alan Schilke, whose approach was to come up with elements that created theater, and he figured out a way to make it work. Now I think we are striking a balance between innovative thrills and practicality," he said.

The company also continually reinvested in its track and column facility in Slovakia. It has developed several proprietary manufacturing tools, as well as a new track design, that helps minimize shrinkage after welding and overall track weight. This new track design is being manufactured for 2023 projects. The company is also creating track that is as smooth as possible. Cicchelerio said that the way track is built now is different from even that of a decade ago: "Now that we can use the 3-D model, we can show the angles on the jigs. So, we used those elements to position the jigs in the holder and then place the pipes into the jigs. Additional verification by laser allows us to do quality assurance checks in a three-dimensional space. The practical work of building coaster track today is just different."

Antonio Zamperla Jr. summarized the company's future in this way: "The attractions market is continually innovating, and that is why being forward-looking has been a critical part of the company's identity. We have consolidated our position as a premier supplier of thrill, family and kiddie attractions. Today we are becoming recognized as a premier roller coaster manufacturer. In fact, 2023 will be one of our busiest years for supplying coasters. Clients that historically bought rides or family coasters from Zamperla are coming to us and requesting cutting-edge coaster experiences."

As the company prepares for the 2022 IAAPA Expo, there is a lot to celebrate. 2023 will



Cedar Point will receive a spinning Wild Mouse in 2023.

COURTESY OF CEDAR POINT

be one of the largest coaster years in its history. There are more than 10 Zamperla roller coasters opening next year like the Twister Freeform at Cedar Point (Sandusky, Ohio), Junior Coaster 400 at Adventureland (Altoona, Iowa), the company's first LSM launch coaster and several others that will recast the company in a different light.

Everyone at the company believes the next steps will be exciting ones for the Zamperla coaster team. Antonio Zamperla Jr. said, "I am excited because our coaster division is doing so many different things. This caps off a decade of growth since the *Thunderbolt* opened, and I am amazed at what we have achieved. Now Zamperla has a dedicated team of engineers and our own steel fabrication facility for track and columns. In addition, we have an engineering

team that is completely in house. All parts of the coaster design — static, dynamic, structural, etc. — are worked on by Zamperla's large team of coaster designers. Capping all this off, we are opening our first linear synchronous motor coaster next year. It will use our *Lightning* train and is the springboard for the next generation of Zamperla roller coasters."

Adam Sandy is an industry veteran and the roller coaster sales and marketing director at Zamperla. He's been riding since his parents first put him on *Glissade* at Busch Gardens Williamsburg when he was two. When not traveling for work, he visits parks with his daughters, Anya and Kira, while his wife, Tomoko, enjoys a quiet house.

RC!