

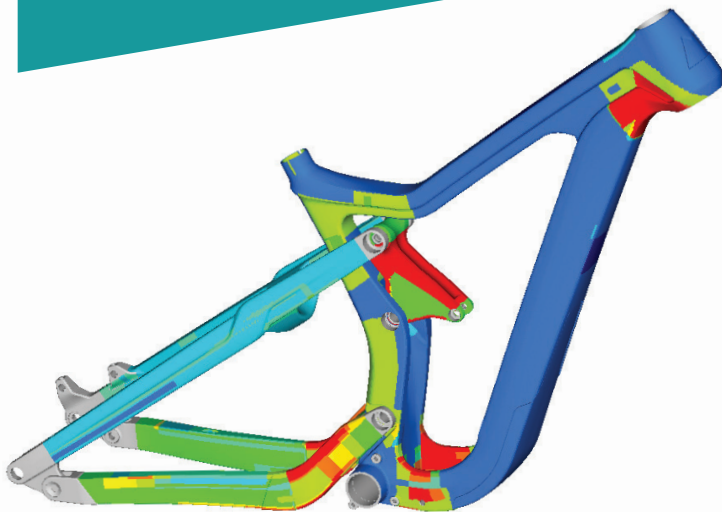


## and the Sports Industry

### Unleash the Potential *Performance*

Lx Sim offers solutions to validate designs and increase the efficiency of equipment for the sports industry (impact analysis, equipment optimization in advanced materials, aerodynamics ). It includes the analysis of the client's objectives, our unique sim-optimization services, and on-going follow-up services.

Our sim-optimization services, the perfect blend of technically-advanced simulation and optimization of parts and systems, explore efficient ways to achieve your design while taking into account your requirements and constraints.



## Success Story: Morpheus Cycles, in collaboration with Faction Bike Studio



### THE CHALLENGE:

**Develop a high-performance downhill mountain bike chassis**

Morpheus needed to design a downhill mountain bike chassis that would allow them to provide their athletes with the best possible bike, thereby establishing themselves in this ultra-competitive market.



### THE SOLUTION:

**Weight optimization and structural analysis of composite materials (carbon)**

- Collaboration with the manufacturing plants and the design office to identify project requirements and issues.
- Use of a virtual test bench that could effectively measures resistance and stiffness.
- Optimization focused on both manufacturing constraints and achieving performance requirements.
- Delivery of the work instructions for the optimal lay-up rolling of the structure (followed by the manufacturing).



### THE RESULTS:

**Lx Sim's work and recommendations provide the following benefits:**

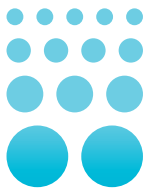
- Reduction in development costs
- Increased performance
- Presence on the international stage (World Cup)
- The lightest and most affordable chassis in its class (full bike: 34 lbs)

## Testimonial



Lx Sim has supported us for a number of years by providing structural analysis (FEA) and high-quality numerical optimization. The relationship of trust allows us to use the results immediately in order to develop our bike concepts and enhance performance. In addition to their efficiency and quick response time, they allow us to reduce lead times for the manufacturing stage.

Erick Auger, Eng., President / [Faction Bike Studio](#)



Product  
sim-optimization

# Unleash the potential

We believe everything has a hidden potential waiting to be revealed... Our goal is that you see your product's potential by looking through our glasses. You will experience it with our "sim-optimization services," the perfect blend of technically advanced simulation and optimization that will unleash the potential of your product...and your business!

## LX SIM complete technical and business package

### Sim-optimization services: Taking your challenges head on

Using both simulation and optimization in order to get the job done in the most cost-efficient way and to tackle challenges: increased solidity or flexibility, feasibility of equipment and more.



Complete sim-optimization:  
modelization, simulation  
and optimization



Weekly reports



Live technical and business  
results presentation



Detailed final report

### Industries :

Sports, Entertainment, Defence,  
Transportation and Industrial products

### Strong start services: Understanding and acting at once

Thanks to our expertise and technology, we are able to quickly understand your objectives and challenges so improvements can start right away and keep you ahead of competition.



Technical and business  
situation analysis



Adapted in-depth  
proposal



Original & benchmark  
product analysis



Work schedule  
and planning

### Long-term improvement services: here for the long run

As long as your situation and needs change, we will be there with adapted solutions and technologies. Always looking ahead for technical and business constant improvement.

- Technical training
- News and trends
- Business support presentations
- Advisory committee "on-demand" expert