A major electrifying event in collaboration with

For **I**nspiration and **R**ecognition of **S**cience and **T**echnology

2017-2018

SCHOOL YEAR REPORT

SCIENTIFIC LITERACY IN QUEBEC

In 2013, in the wake of the Pan-Canadian Assessment Program's (PCAP) test results on science, reading and mathematics among secondary II students, the Conseil supérieur de l'éducation advisory board released a report urging:

More science and technology instruction at the elementary and high school Cycle 1 levels.

The report found that:
- **Teaching science has long taken a back seat to other subjects in many elementary schools.**
- **The material often makes it impossible for teachers to adapt their practice, especially when it comes to performing scientific activities.**

It recommends:
- **firmly emphasizing the importance of teaching science and technology right from the early stages of primary school ;**
- **improving science and technology instruction training for future teachers;**
- **doing a better job of coordinating the multiple resources aimed at supporting science and technology education.**

FIRST POWER UP
3550
ROB
Bernard L'Arrivée
PHOTOGRA

THE LEARNING CONTINUUM

NURTURING THE FUTURE OF SCIENCE AND TECHNOLOGY

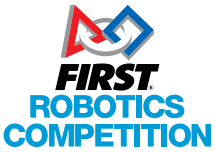
AGES 6 TO 10

2300 elementary school students

AGES 9 TO 14

3050 elementary and high school students

AGES 14 TO 18



1750 high school students

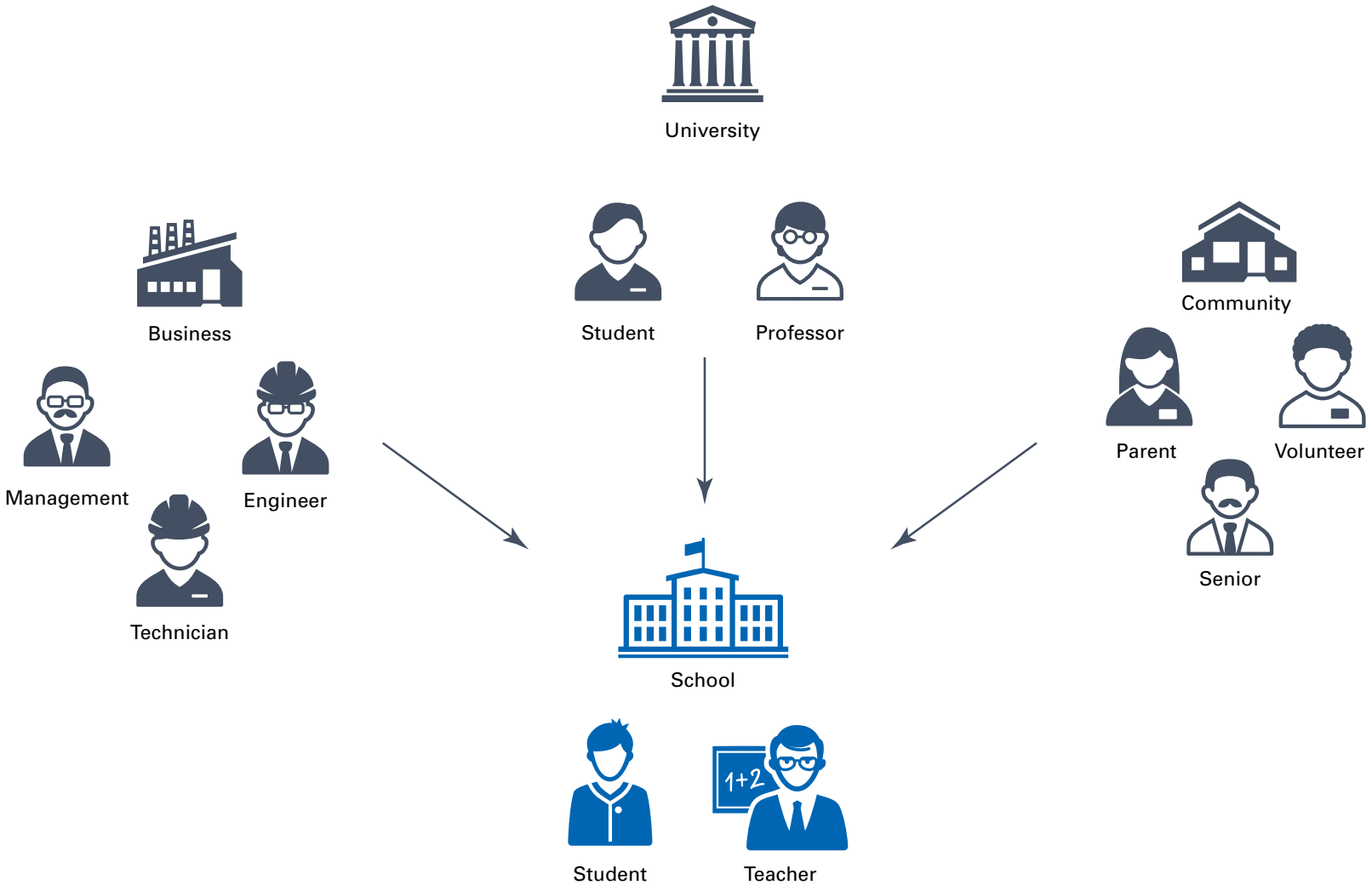
CEGEPS / TRADE SCHOOLS

UNIVERSITIES

INDUSTRY

THE FORMULA: PROVIDING SCHOOLS WITH ONGOING SUPPORT

Our mentoring program bridges together primary schools, secondary schools, post-secondary schools and the job market, while also involving the community in the process.



FIRST ROBOTICS COMPETITION

AGES 14 TO 18

FIRST POWER UP℠

ROBOTICS AT THE HIGH SCHOOL LEVEL: THE ENGINEERING GAMES

FIRST ROBOTICS COMPETITION: AGES 14 TO 18

FIRST ROBOTICS COMPETITION

The 2018 challenge presents our teams, with their robots, trapped in an 8-bit arcade video game. Teams used strategy and the robots manipulated power cubes to defeat the game boss.

THE CHALLENGE: THE ENGINEERING GAMES

Over a six-week period, building a robot weighing roughly 120 pounds by combining the excitement of sports with the rigours of science and technology.

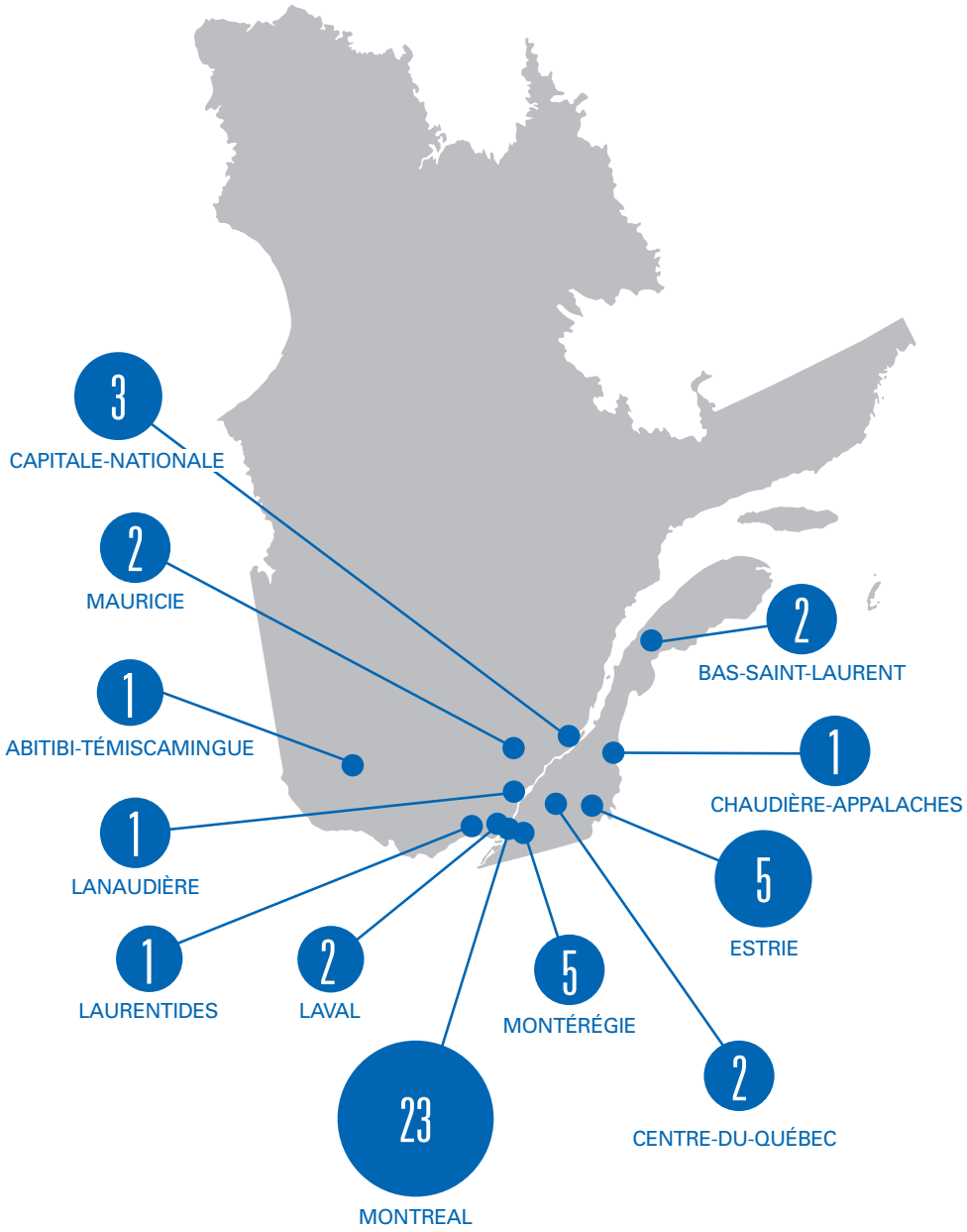
In 2011-2012: Basketball
In 2012-2013: Frisbees
In 2013-2014: Exercise Balls
In 2014-2015: Recycle Rush
In 2015-2016: Stronghold
In 2016-2017: Steamworks
In 2017-2018: Next Level

TANGIBLE SUPPORT

Students receive year-round support from teachers, as well as university or industry experts. This commitment represents more than 15,000 hours of mentoring, providing students with an opportunity to learn about fields and careers related to engineering, science and technology.

MORE THAN A ROBOT

Via the robotics challenge and our mentoring program, students get to touch on mechanics, electronics and computers, while also building self-confidence, communication skills, teamwork skills, an entrepreneurial mindset and leadership.



1750
STUDENTS
AGES 14-18

48
TEAMS

9
ROOKIE
TEAMS

600
MENTORS

FIRST LEGO LEAGUE

AGES 9 TO 14

HYDRO DYNAMICS℠

TEACHING ROBOTICS IN ELEMENTARY SCHOOLS WITH LEGO *FIRST* LEGO LEAGUE: FOR EMERGING 9 TO 14 YEAR-OLDS

FLL

Each game lasts 2 min. 30 sec. The robot must complete autonomously a total of 15 missions: transport a shark in an aquarium, feed various animals, bring a bee to the hive and extract the honey, etc.

THE CHALLENGE

Designing, building and programming a robot capable of carrying out missions autonomously, while developing research projects aimed at solving current real-world problems.

POWERFUL THEMES

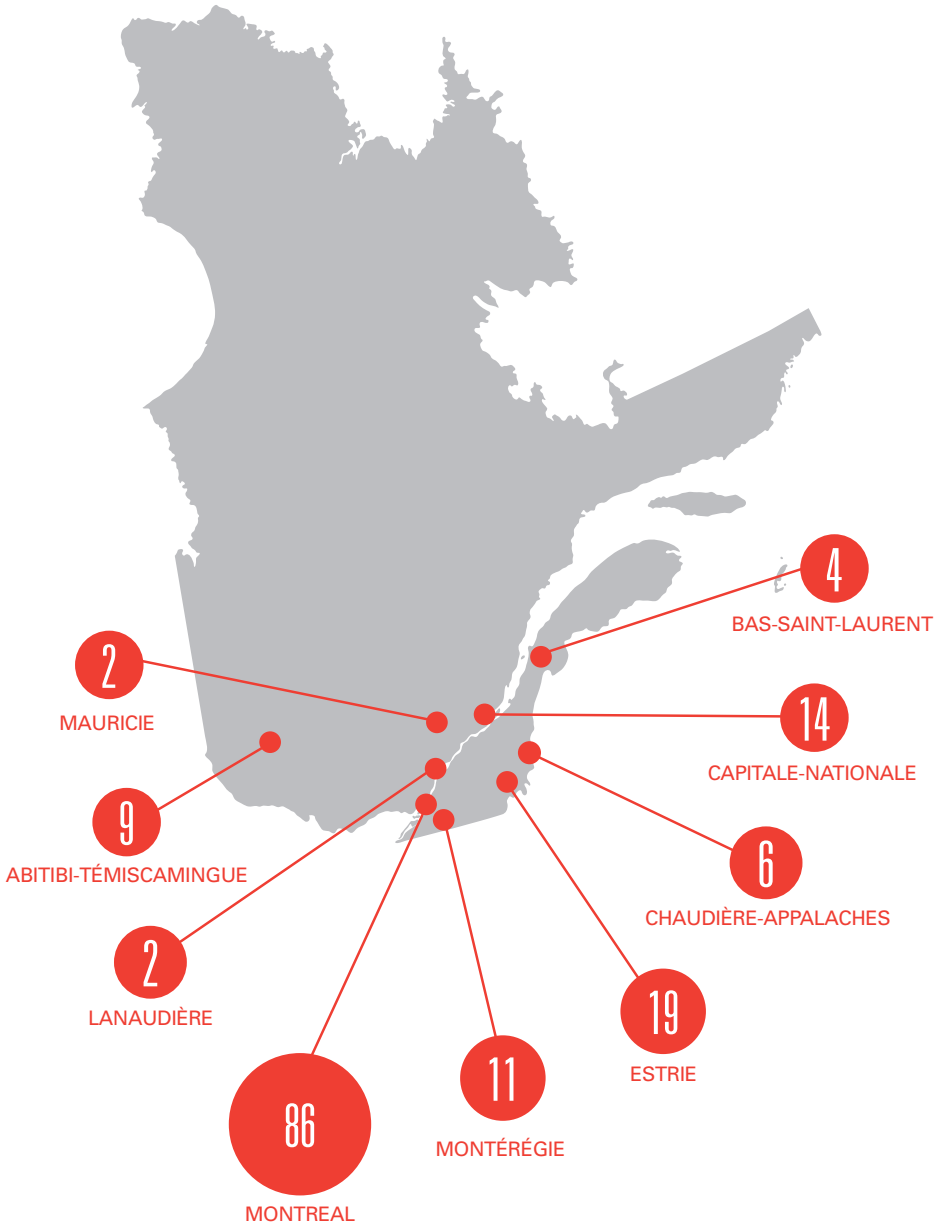
In 2011-2012: Food Factor
In 2012-2013: Senior Solutions
In 2013-2014: Nature's Fury
In 2014-2015: World Class Learning Unleashed
In 2015-2016: Trash Trek
In 2016-2017: Animal allies
In 2017-2018: Hydrodynamics

INSPIRING PRESENTATIONS

The participants present their findings and innovative solutions to the judges, and are evaluated on three aspects: the team's core values, the research and innovative solutions, and the robot's design.

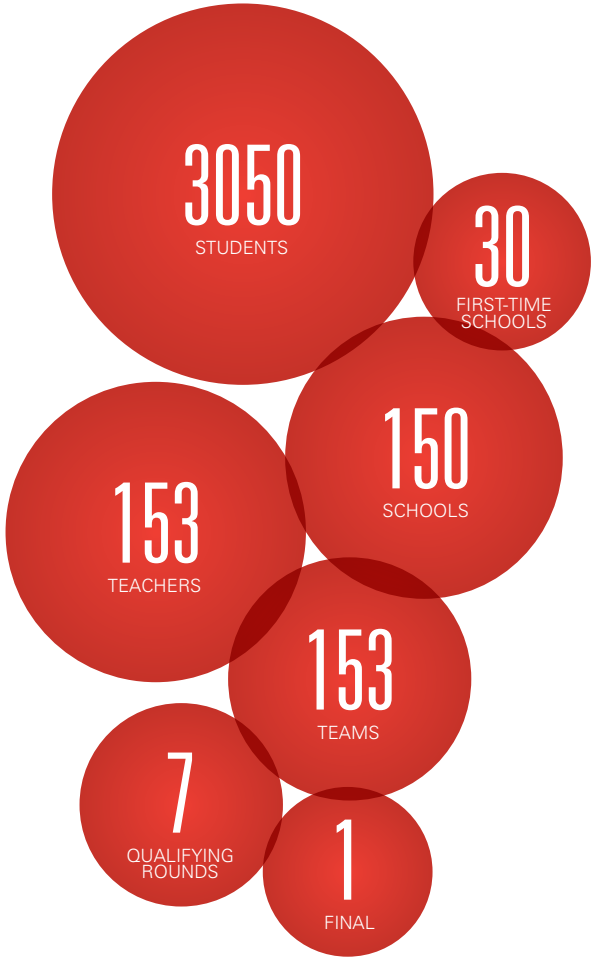
MORE THAN A ROBOT

The instructors introduce the project in class, not just to tie it in with school subjects like science, technology and math, but also so the students can learn the proper wording: readings during the research phase, drafting of solutions and reporting on the findings, and an oral presentation before their peers and experts on the subject.



LEGENDE

1 Teams per region



FIRST LEGO LEAGUE JR.

AGES 6 TO 10

TEACHING ROBOTICS IN ELEMENTARY SCHOOLS WITH LEGO

FIRST LEGO LEAGUE JR.: FOR EMERGING 6 TO 10 YEAR-OLDS

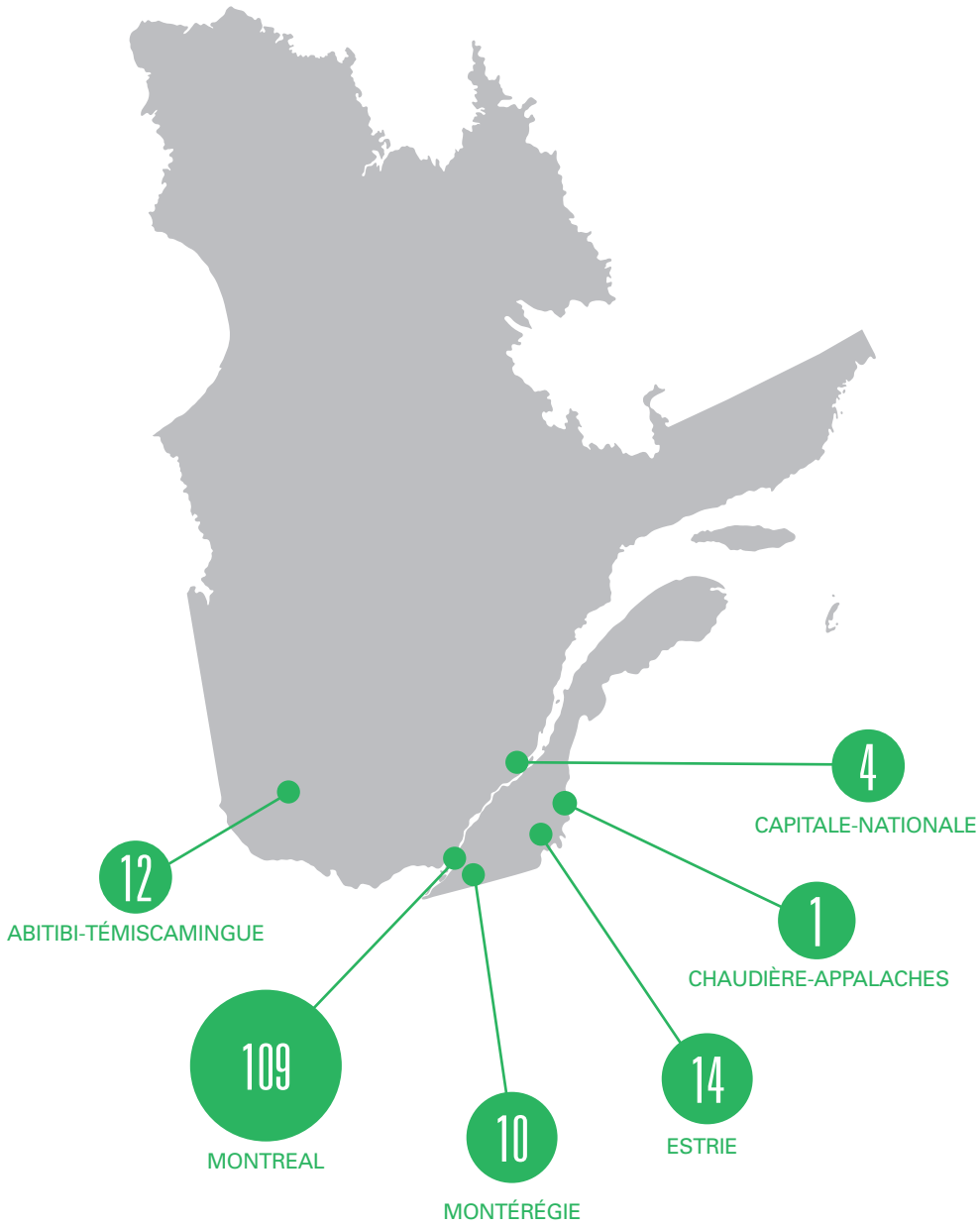
FIRST LEGO LEAGUE JR.

It's a program for students ages 6 to 10. The kids present their research findings and the model they built at shows that last anywhere from 2 to 4 hours – a friendly competition where everyone's a winner!

AQUA ADVENTURE℠

The challenge of the Junior *FIRST* Lego League is to construct a motorized model of what they learned using LEGO WeDo robotics kits and create a poster that illustrates their research project.

This year, through the theme **«AQUA ADVENTURE»**, students explored the path taken by water from its source, all the way to a use of their choice. With their creativity, the Inspiration Set and the WeDo, they created a model that illustrates their chosen use of water, as well as a poster that presents the team, the model and what they learned throughout the season. The project is then presented to a jury.



LEGENDE

1 Teams per region

2300
STUDENTS

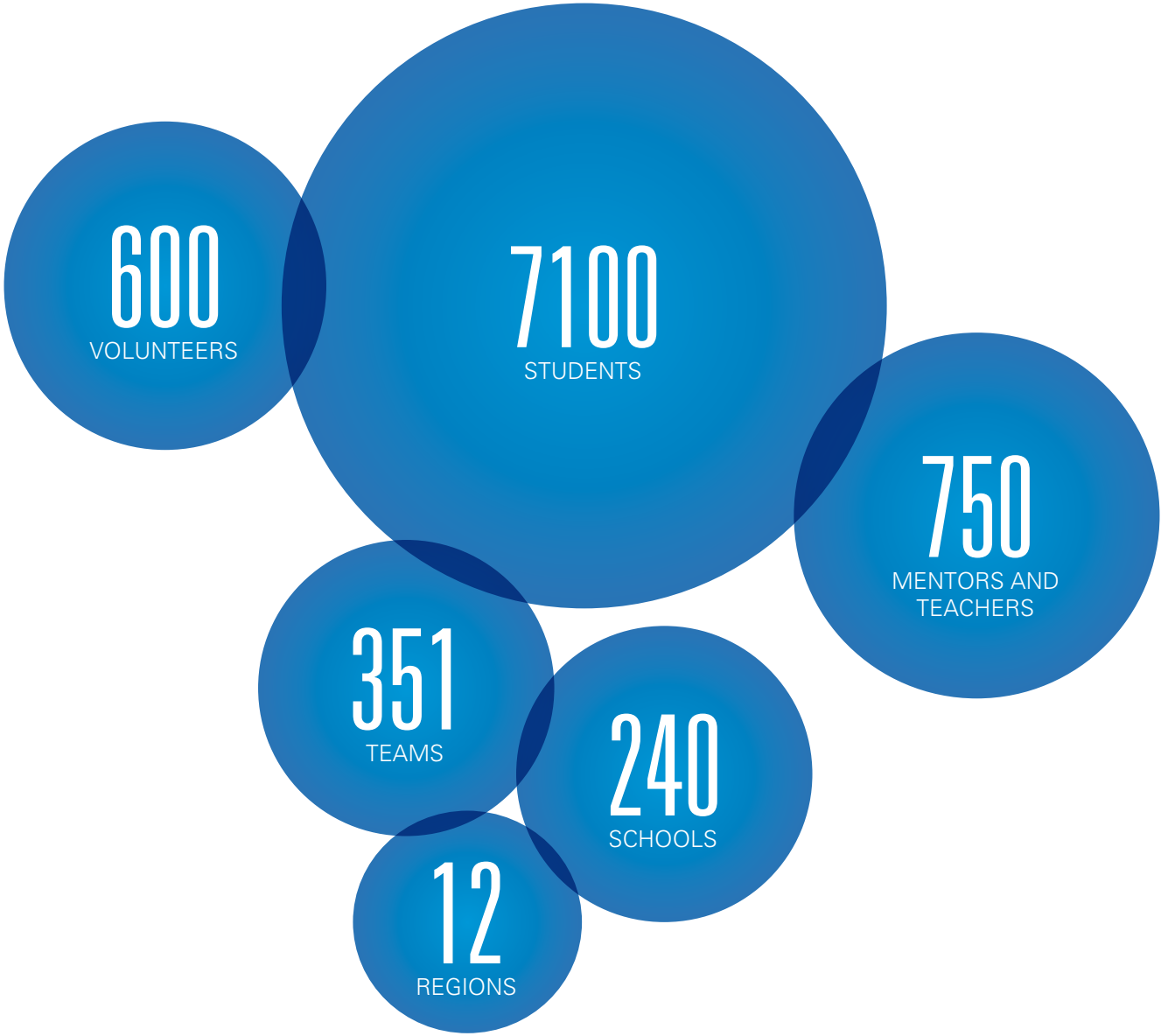
2
EXHIBITIONS

120
TEACHERS

80
SCHOOLS

150
TEAMS

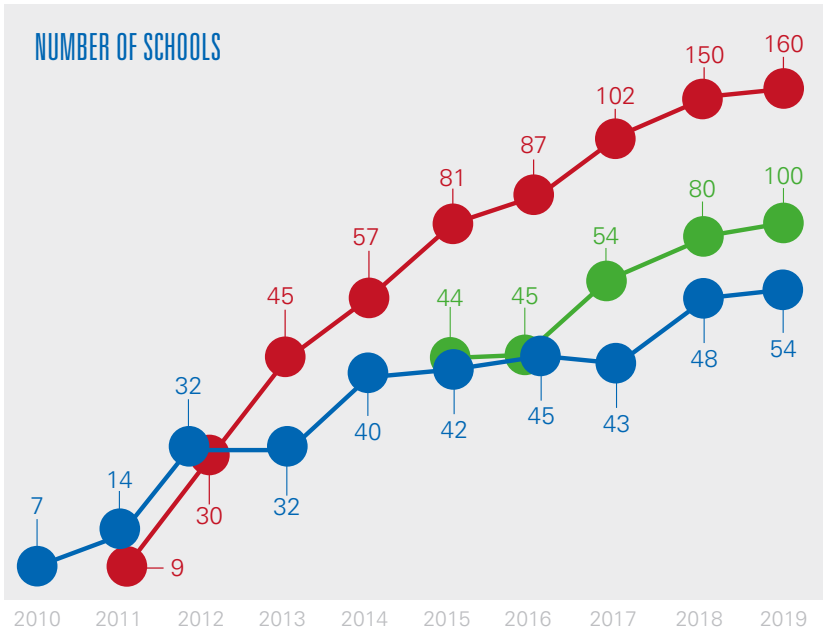
ROBOTICS *FIRST* QUEBEC
BY THE NUMBERS

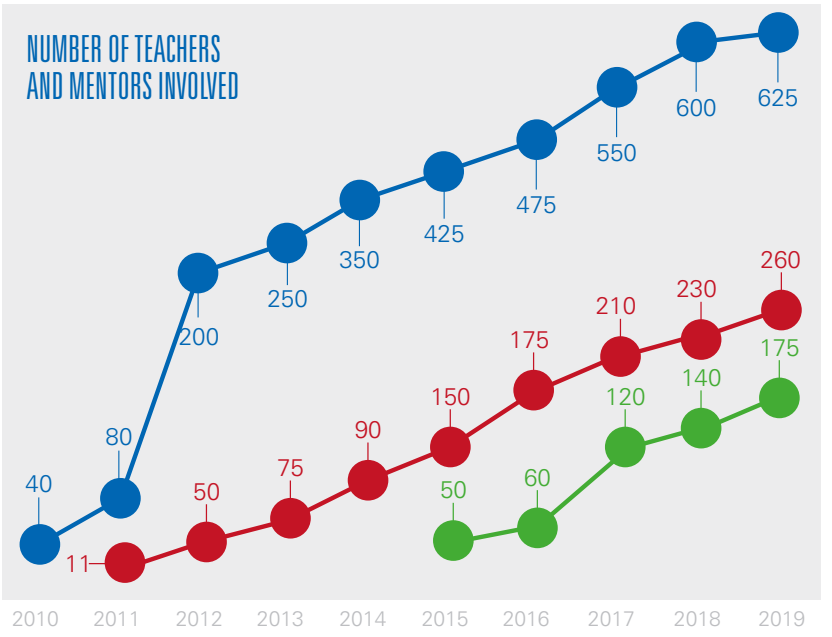


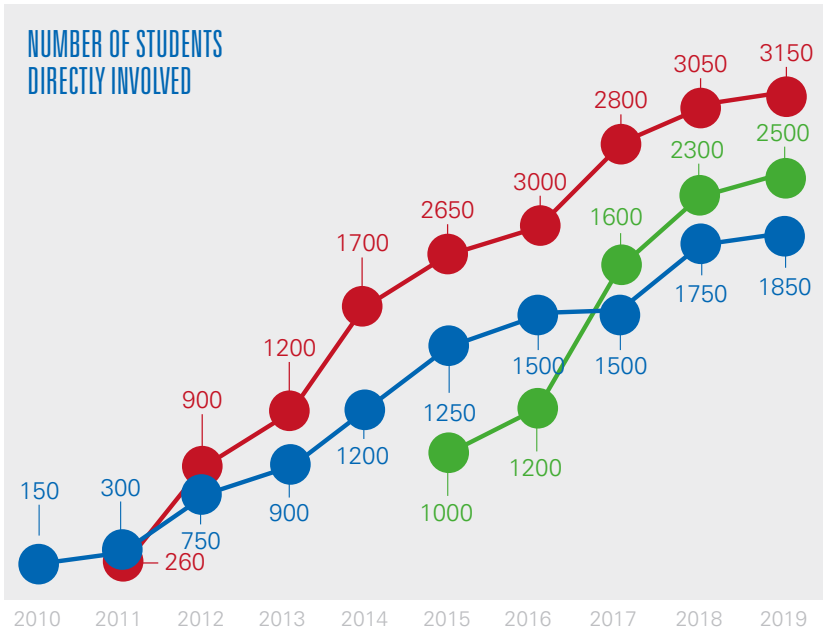
FIRST
Qualification 1 de 83
Montreal Regional
BOMBARDIER

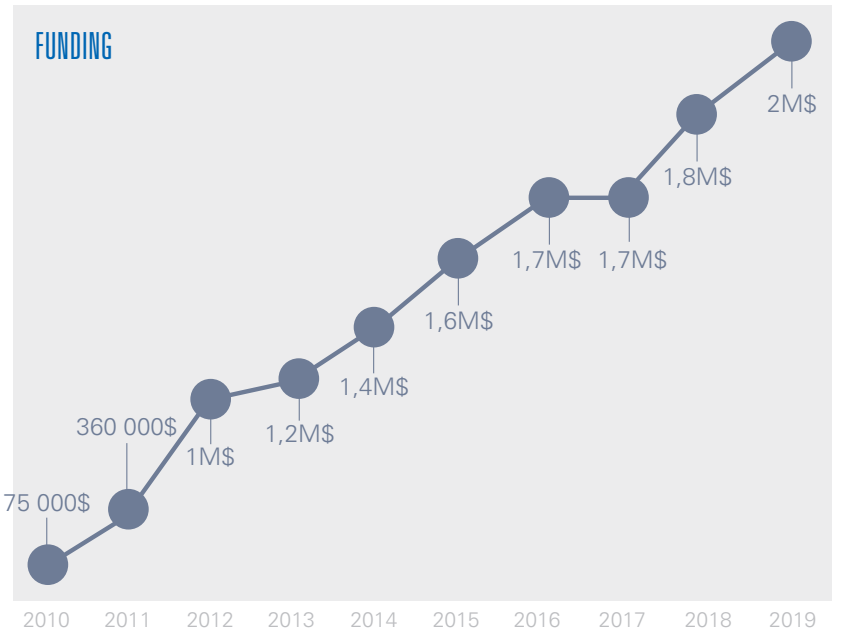
EXPANSION AND OBJECTIVES

FRC FLL JrFLL COMBINED









6851

QUALIFICATIONS

FIRST LEGO LEAGUE - 2018

7 qualifying events by the number:
Montréal (4), Sherbrooke (1), Québec (1), Amos (1)

4000
PEOPLE
in total

3000
STUDENTS
in total

153
TEAMS

220
VOLUNTEERS

153
TEACHERS
involved

111
ELEMENTARY AND
HIGH SCHOOLS

36
TEAMS QUALIFIED
FOR THE FINAL

ROBOTICS FESTIVAL

A MAJOR ELECTRIFYING EVENT

An incredible fusion of high tech and high-intensity robo-sports, the Robotics Festival, already in its 7th year, continues to grow unabated as it further entrenches itself as one of the most exciting events year after year.

Each year, teams undertake complex technological challenges while engaging in high level "coopetion" (cooperative competition). The Robotics Festival showcases students and their creations: amazing robots they've built thanks to the knowledge and skills they acquired from their mentors during the course of the season.

The 3-day festival showcases the *FIRST* Robotics Competition for ages 14-18, the exhibitions for the Junior *FIRST* Lego League for ages 6-10 and the qualifying rounds for the *FIRST* Lego League for ages 9-14.

THE 7TH EDITION OF THE FESTIVAL BY THE NUMBERS

From March 1 to 3 2018, at the Complexe sportif Claude-Robillard and the Marché Bonsecours

6500 PEOPLE in total

3000 STUDENTS in total

500 MENTORS from the industry sector and universities

58 *FIRST* ROBOTICS COMPETITION TEAMS

8 TEAMS from outside of Quebec

36 *FIRST* LEGO LEAGUE TEAMS

+ de 120 ELEMENTARY AND HIGH SCHOOLS

10 POST-SECONDARY INSTITUTIONS

350 TEACHERS involded

200+ COMPANIES and sponsors

48 UNIOR *FIRST* LEGO LEAGUE

250 VOLUNTEERS

The students have a highly stimulating goal to reach for: the opportunity to shine at international competitions, held primarily during our Montreal robotics festival, but also in Detroit (USA) for the *FIRST* World Championships, attended by 40,000 passionate young competitors.

FIRST WORLD CHAMPIONSHIPS :
QUEBEC SHINES

For the Robotics FIRST Competition :
3117-Harfangs from Sherbrooke
3550-Robotronix from Montréal
3990-Tech for Kids from Montréal
5443-éPATenteux from Pointe-aux-Trembles
5528-Ultime from Trois-Rivières, and rookie team
6869-Gladiateurs from Saint-Jérôme : Award for the best rookie team in division qualifications

For FIRST Lego League:
15408-éPATenteux from Pointe-aux-Trembles
15387-Huskies from Québec

FIRST IN THE WORLD

530 000

STUDENTS IN 61 000 TEAMS
FROM 95 COUNTRIES

19 M+

HOURS OF VOLUNTERRING

255 000

VOLUNTEER ROLES SUCH AS
COACHES, MENTORS, JUDGES, ETC

2 900+

EVENTS

IN **91** COUNTRIES

69 000

PARTICIPANTS DURING THE TWO
FIRST CHAMPIONSHIPS

81 M+

IN SCHOLARSHIP OPPORTUNITIES
FROM 200 DONORS

FESTIVAL PRESENTERS

BOMBARDIER Québec

FESTIVAL CO-PRESENTERS

Hydro Québec BMO Montréal

EXCLUSIVE NATIONAL SPONSORS

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UNIVERSITÉ LAVAL

Université de Montréal

UQÀM

HEC MONTRÉAL

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Commission scolaire de la BEAUCE-ETCHEMIN
Ensemble vers l'avenir

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Commission scolaire de la Côte-du-Sud

Commission scolaire des Découvreurs
Découvreurs en tête! 30 ans

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Moving ahead. Together. | Aller de l'avant. Ensemble.

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English Montreal School Board

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CSRN
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Commission scolaire du Val-des-Cerfs
conjuguer nos forces!

Réseau réussite Montréal

CONTACT US

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in association with

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