



Best Practices: Winning in a High Performance Culture

David France, IT Director, Brawn GP



Best Practices: Winning in a High Performance Culture

David France, IT Director, Brawn GP



Who we are

- Member of the exclusive formula one “club”
 - A global shop window
- Highly competitive environment
 - Performance improvements are measured in terms of 1,000ths of a second
- Technology reliant
 - Pushing technology for competitive advantage (materials, ICT, etc.)
 - But not “bleeding” edge
- Secretive and security conscious

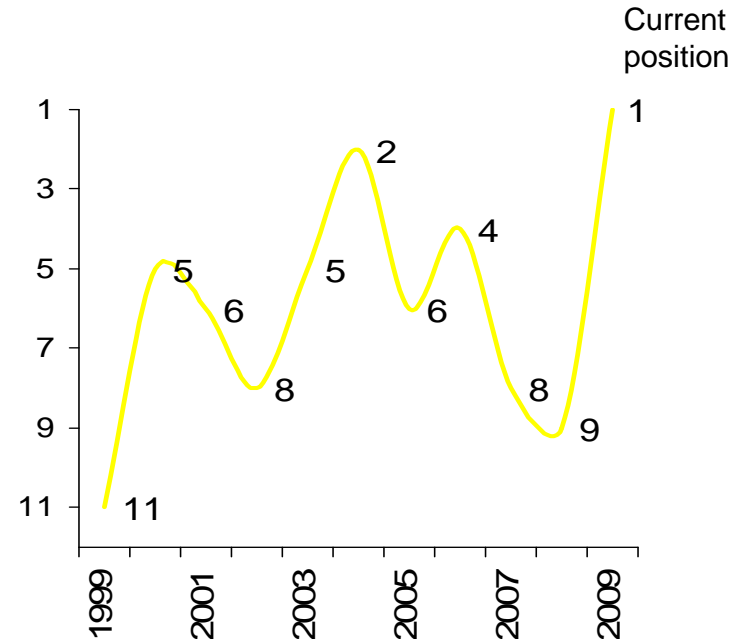


A brief history of the team

notable events

- British American Racing:
 - Founded in 1997 by British American Tobacco, Craig Pollock and Adrian Reynard
 - Acquired the old Tyrrell Racing team
- Honda:
 - Became joint shareholder with BAT in December 2004
 - Sole owner in December 2005
 - Announced departure from F1 in December 2008
- Became Brawn GP in March 2009

championship positions



The Brawn GP Team

- Operate from
 - Factory in Brackley
 - Race tracks around the world
- We have
 - 450 staff
 - Supported by Mercedes Benz High Performance Engines
- Essentially we are a light engineering business
 - With a “mobile” front office
- Everyone is passionate about motor racing!



At Brackley

- High tech. purpose-built facility
 - Sophisticated engineering manufacturing plant
 - Wind tunnel
 - Dyno
 - CFD Super Computer
- Mixture of familiar and specialist business systems
 - Common applications
e.g. CAD, CAM, ERP, etc
 - Specialist applications
e.g. CFD, FEA, etc



What is best practice?

- Best Practice is a superior method or innovative practice that contributes to the improved performance of an organisation, usually recognized as "best" by other peer organisations.
- It implies accumulating and applying knowledge about what is working and not working in different situations and contexts, including lessons learned and the continuing process of learning, feedback, reflection and analysis (what works, how and why).
- There is no practice that is best for everyone or in every situation, and no best practice remains best for very long as people keep on finding better ways of doing things.
- Why is the use of best practice so important in Formula One?
 - First you need to understand the environment in which we operate

Drivers of change

- FIA regulations
 - “Compliance”
- Car performance
 - Ongoing search for competitiveness
- Race season
 - Calendar of events

- Change is always “time driven”



2009 Season Schedule

	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	
JAN																															
FEB																															
MAR																															
APR																															
MAY																															
JUNE																															
JULY																															
AUG																															
SEPT																															
OCT																															
NOV																															
DEC																															
	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	

The competitive environment

- A contest between
 - FIA regulators – trying to slow the cars down, improve overtaking, etc
 - F1 engineers – trying to make the cars go faster
- Technical regulations
 - Extensive & voluminous
 - But open to some interpretation
- Competitive advantage can be gained by
 - Responding well to major changes every 2-3 years
 - Exploiting the “grey areas”



To be successful in Formula One

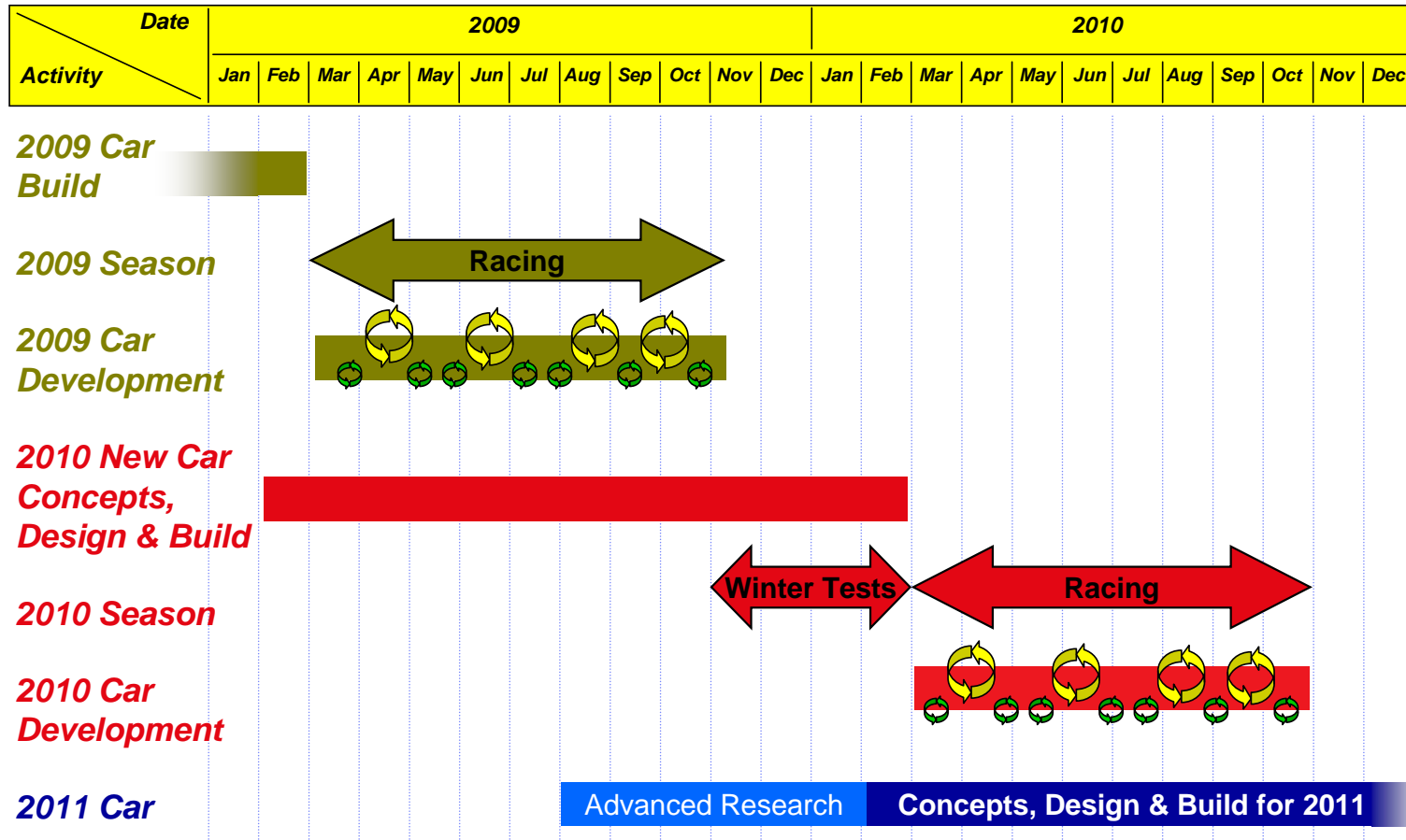
- You must be able to design, build, test and race a car...
that has the right balance between speed, reliability and safety

and

- be able to develop and improve the performance of the car during the race season...
at a faster pace than the competition

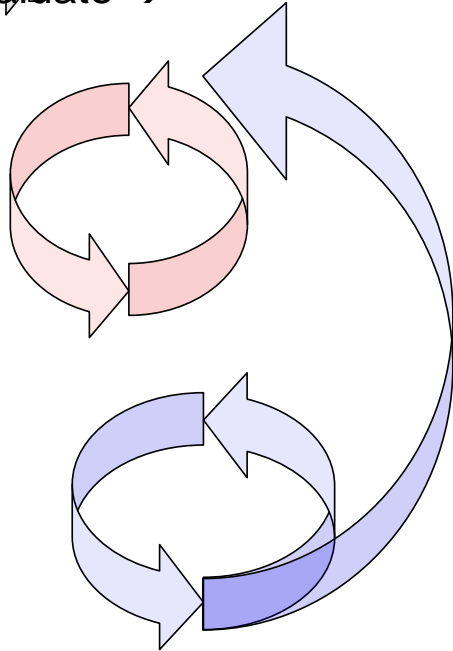


Outline scheduling



End to end process flow

- Research →
Concepts →
Evaluate →



Best practices to enable rapid car development

- CFD integrated into the Aero department
 - To enable faster development of efficient aerodynamic models
- FEA integrated into Design & Aero departments
 - To provide stress analysis of component designs / concepts during the design process
- Integration of CAD, CAM, PDM and ERP systems
 - To ensure integration of design & manufacturing
 - And minimise lead time required to manufacture components
- Processes that are simple & efficient
 - Metrics to check performance
- Organisational focus on the things that really matter



Best practice to ensure pitstop competitiveness

- 24 team members working in harmony
 - All have other important roles & responsibilities within the race team
 - All have clearly defined roles for the pitstop
- Box clearly marked out
- All equipment carefully pre-positioned
- Back-up equipment ready for use
- Practice, practice, practice!

- A good pitstop can make the difference between winning or not winning the race!



Culture to facilitate the process

- No blame culture
 - Fear of failure can limit willingness to experiment
 - Risk taking is allowed
- Learning environment
 - Plan → Do → Review
 - Sharing information
- But you need to know ...
 - When to change the process
 - When to stop pursuing unproductive lines of development
 - When to revisit previously discarded concepts
- Competitiveness



Best practice is now even more important

- Rate of spend in F1 has been unsustainable
- Limited budgets
 - Honda withdrawal
 - Birth of Brawn GP
- Competitiveness in F1 will become dependent on best practice
 - Need to maximise the value of the available budget
- Important for all F1 teams
 - FIA budget cap from 2010



“Constantly improving best practice is now a pre-requisite to success in Formula One”

