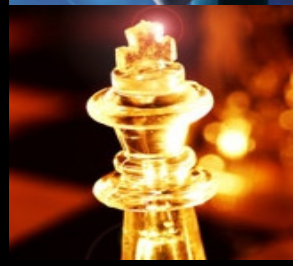
STOP
FOLLOWING.
START
LEADING.



Taking Charge of Change

31st January 2008

STOP FOLLOWING. START LEADING.

IBM Client experience

31st January 2008

David France
IT Director, Honda Racing F1 Team

Honda Racing F1 Team

Powering dreams one lap at a time

Managing Change in the Fast Lane

David France, IT Director

www.HondaRacingF1.com

Who we are

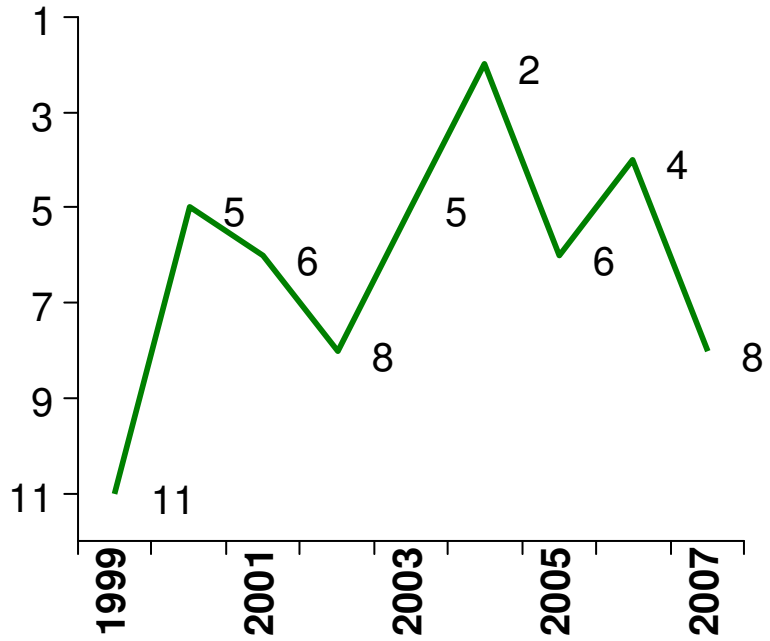
- Member of the exclusive formula one “club”
  - A global shop window
- Highly competitive environment
  - Performance improvements are measured in terms of 1,000ths of a second
- Technology reliant
  - Pushing technology for competitive advantage (materials, ICT, etc.)
  - But not “bleeding” edge
-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

A brief history of the team

notable facts

- Founded in 1997 (acquired the Tyrell Racing team)
- British American Tobacco, Craig Pollock and Adrian Reynard
- Honda became joint shareholder with BAT in December 2004
- Honda became sole owner in December 2005
- The Power of Dreams

championship positions



The Power of Dreams

- *"Since childhood, my dream was to become a champion in World automobile racing with a machine I had made myself"*
- *"If there is no racing, there is no Honda."*

- **Soichiro Honda**
- 1906-1991
-

- Honda dominated Formula One in the 1980s supplying engines to the Williams & McLaren teams
  - 5 drivers championships
  - 6 constructors championships
- **Our dream is to achieve that level of success again**

The Honda Racing F1 Team

- Operate from
  - High tech. purpose-built factory in Brackley
    - Sophisticated engineering manufacturing plant
    - 2 wind tunnels
  - Race tracks around the world
- We have
  - Over 650 staff
  - Plus 50 Honda engineers
- A light engineering business
  - With a “mobile” front office
- Everyone is passionate about motor racing!

Drivers of change

- FIA regulations
  - "Compliance"
- Car performance
  - Competitiveness
- Race season
  - Calendar of events
- Honda integration

- Change is always "time driven"

To be successful in Formula 1

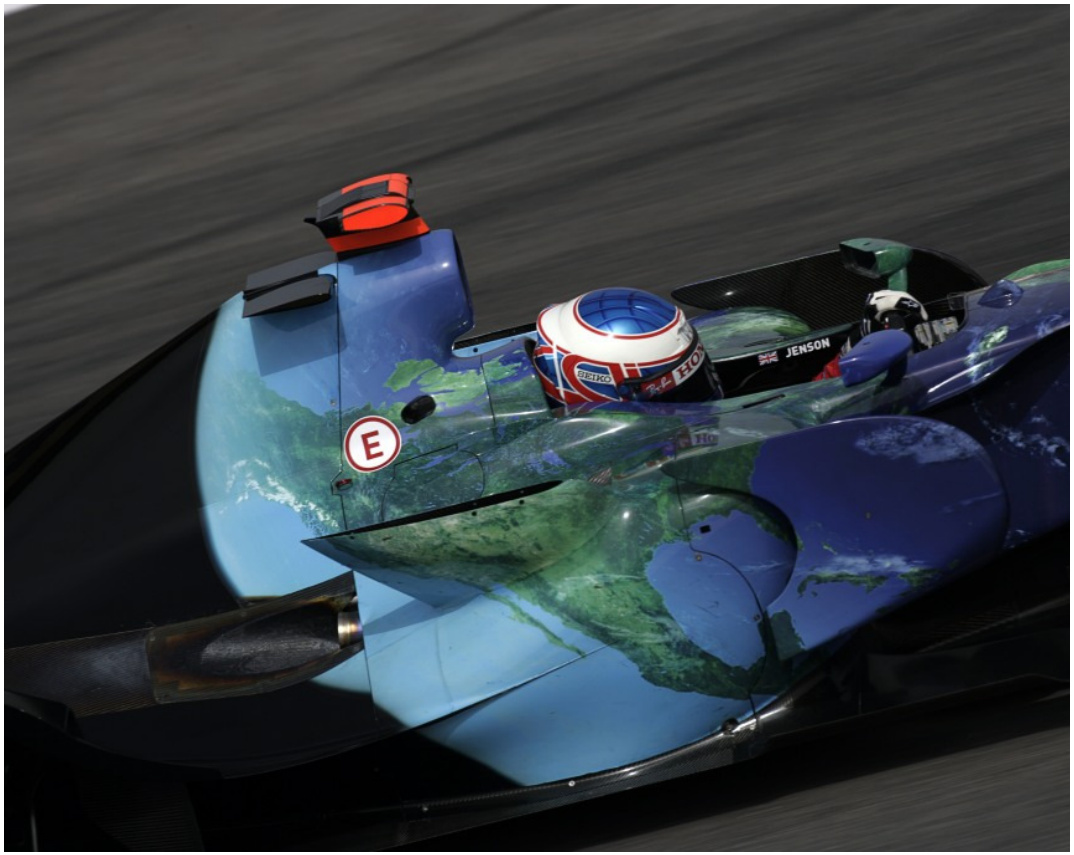
- You must be able to design, build, test and race a car… ***that has the right balance between speed, reliability and safety***
- and
- be able to develop and improve the performance of the car during the race season… ***at a faster pace than the competition***

The Competitive Environment

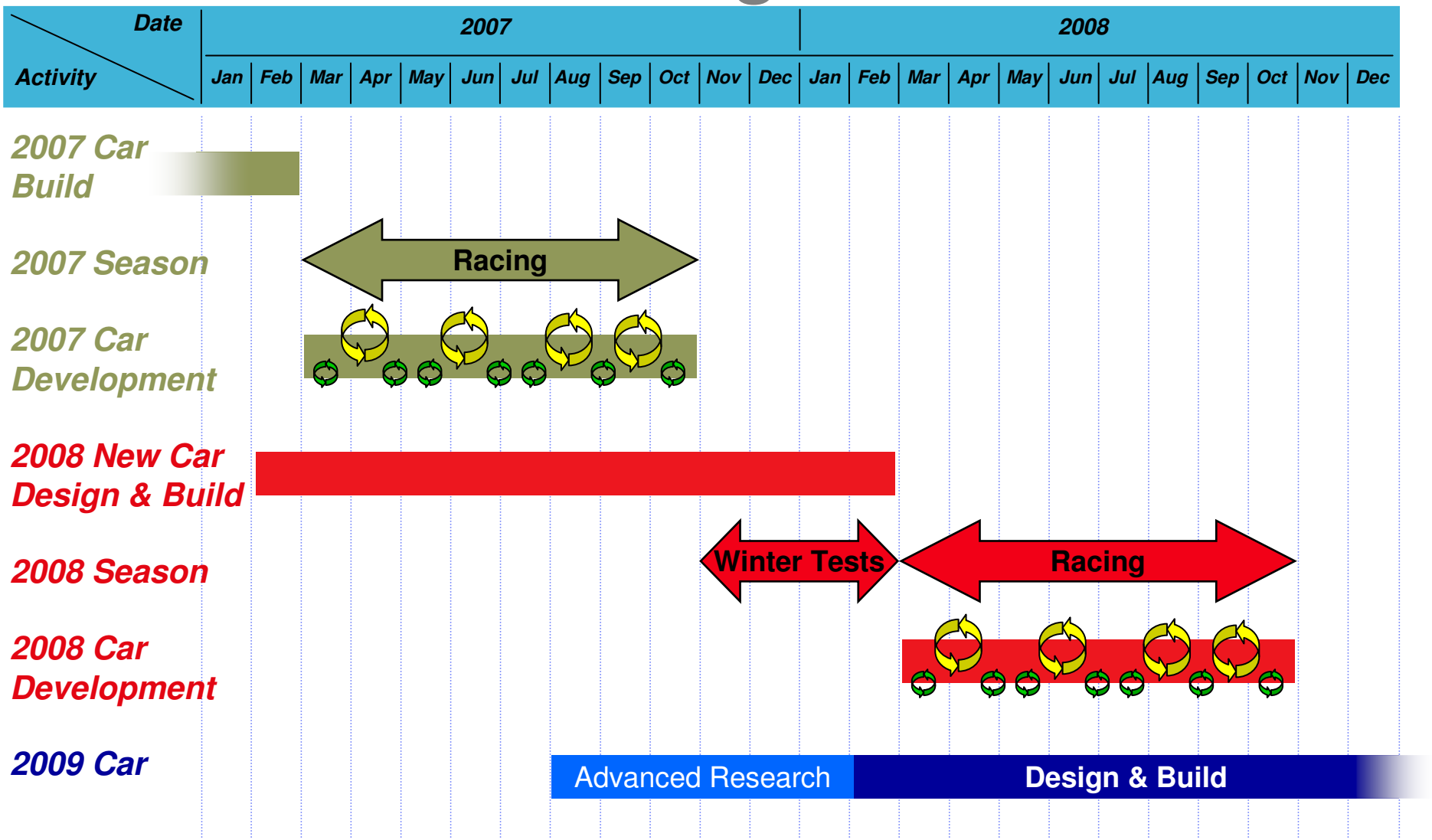
- A contest between
  - FIA regulators – trying to slow the cars down
  - F1 engineers – trying to make the cars go faster
- Technical regulations
  - Extensive & voluminous
  - But open to interpretation in many areas
- Competitive advantage can be gained by
  - Responding well to major changes every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

How to improve the car

- Replication
  - Observation
  - “Similar” developments
- Evolution
  - Rapid, continuous development
- Revolution
  - Innovation
- Main focus: Aerodynamics
  - Engines are “homologated”
  - Single tyre supplier

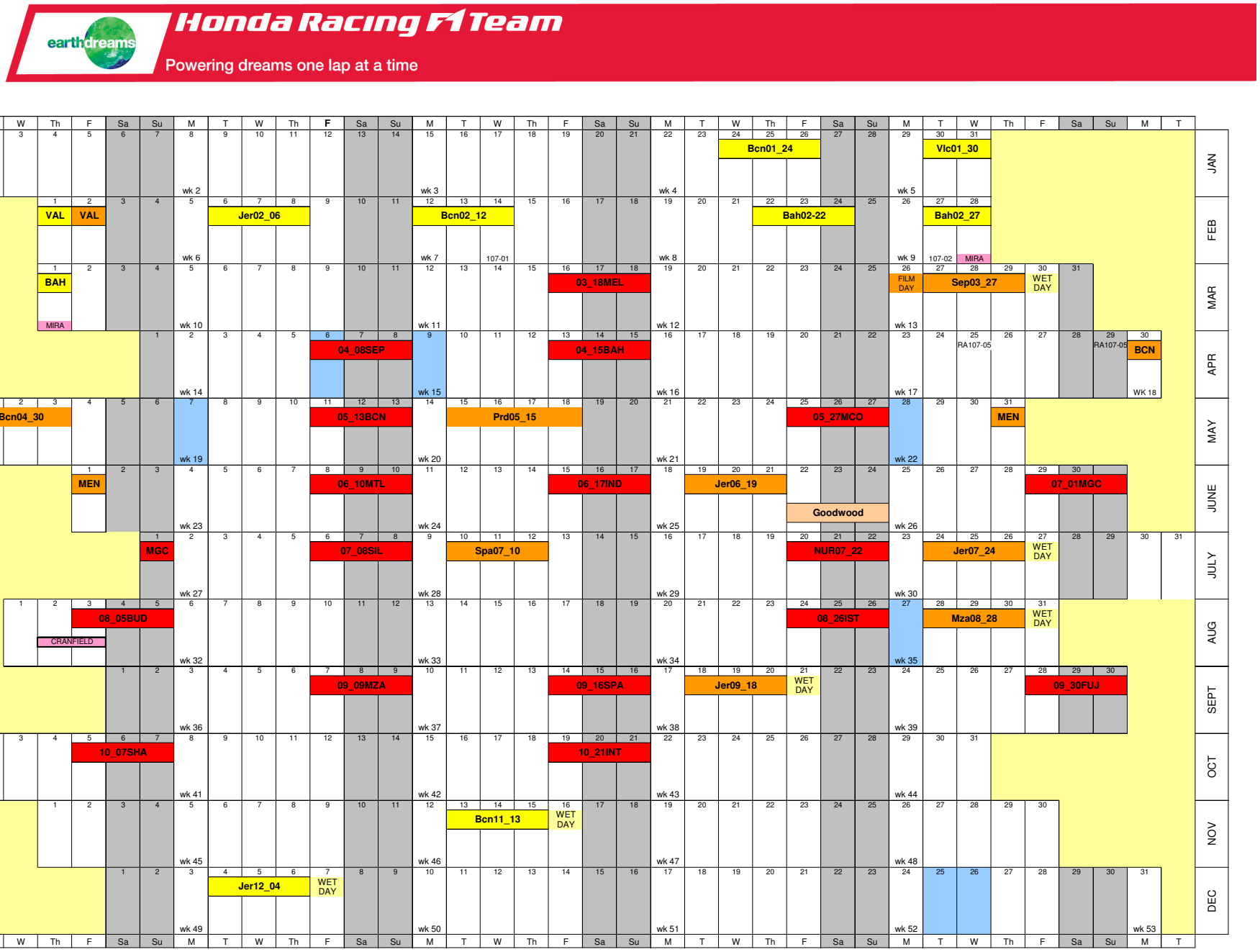


Outline Scheduling



Some facts about the RA107

- We build 7 or 8 chassis pa for testing & racing
- More than 80% of the car is designed & built in-house
- 30,000 aero parts drawn pa
- 20,000 car parts drawn pa
  - Including revisions
- 10,000 components in the race car BoM
  - 3,500 drawn by Honda
- Manufacture over 250,000 components each year
- Relentless drive to develop & improve the car


Honda Racing F1 Team
earthdreams
Powering dreams one lap at a time
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
SEPT
OCT
NOV
DEC
Bcn01_24
Vlc01_30
VAL
VAL
Jer02_06
Bcn02_12
Bah02-22
Bah02_27
BAH
MIRA
03_18MEL
FILM DAY
Sep03_27
WET DAY
04_08SEP
04_15BAH
BCN
WK 18
Bcn04_30
05_13BCN
Prd05_15
05_27MCO
MEN
MEN
06_10MTL
06_17IND
Jer06_19
07_01MGC
Goodwood
MGC
07_08SIL
Spa07_10
NUR07_22
Jer07_24
08_05BUD
CRANFIELD
08_26IST
Mza08_28
09_09MZA
09_16SPA
Jer09_18
09_30FUJ
10_07SHA
10_21INT
Bcn11_13
Jer12_04

End to end process flow

- Research → Concepts → Evaluate

End to end process flow

- Research →
  Concepts →
  Evaluate →
  CFD →
  Aero Design →
  Manufacture Model →
  Wind Tunnel Test →
  Evaluate

End to end process flow

- Research →
  Concepts →
  Evaluate →
  CFD →
  Aero Design →
  Manufacture Model →
  Wind Tunnel Test →
  Evaluate →
  Design →
  Manufacture →
  Track Test →
  Evaluate/Approve →
  Race

Rapid car development needs IT

- CFD systems that
  - Enable fast analysis of models
- FEA systems that
  - Stress analysis of component designs / concepts
- CAD systems that
  - Supports rapid iterations in part design
- PDM systems that
  - Manage multiple part versions
- ERP systems that
  - Provide traceability
- Processes that are
  - Simple & efficient

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
- Competitiveness
- But you need to know …
  - When to stop pursuing unproductive lines of development
  - When to revisit previously discarded concepts

Strategies to handle change

- Involvement in operational planning
- Aligning IT changes to season schedule
- Driving projects with IT involvement
- Advance planning & preparation
- Change priorities when needed
- Teamwork

"The ability to complete quick change is a pre-requisite to success in Formula One"

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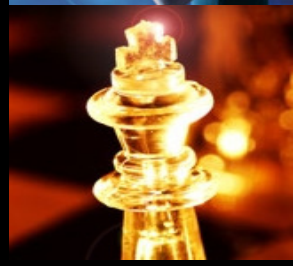

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