



September 13-14, 2022

Delivering Rapid Innovation by Driving Collaboration to New Levels

Phil Smith | Integrated Business Planning – Portfolio Lead

Xtrac



Who are Xtrac?

- World leader in Motorsport and High-Performance Automotive gearboxes



- Sole supplier to IndyCar, NASCAR, IMSA/ACO LMDh, Australian Supercar & BTCC
- Supplier to F1, Formula E, MotoGP, Dakar, Off Road (Baja), Le Mans Hypercar

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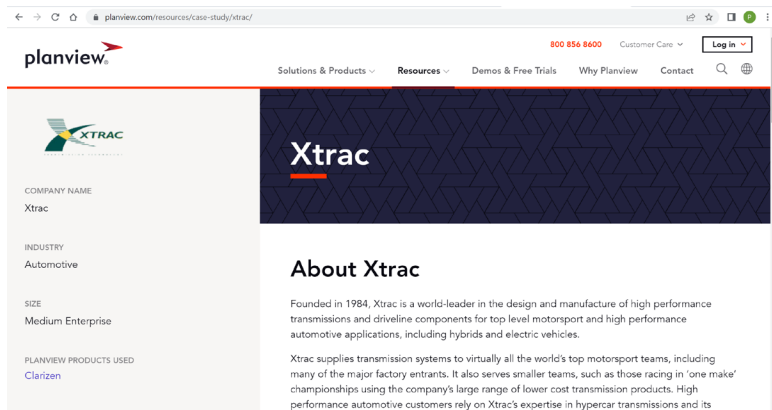
- Sunday 12th June 2022 saw Xtrac parts & transmissions being used around the world

Xtrac & Planview

- Prior to joining Planview Clarizen, Xtrac utilised MS Project and MS Excel for project planning and management.
- Xtrac selected Planview Clarizen as supplier in 2015
 - Proj-X (Internal branding) launched Jan 2016 for 110 users
 - By 2022 this has expanded to 150 users across 3 sites
 - Engineering design Teams
 - Production Planning
 - Commercial Team
 - Build & Test Teams

Xtrac Case Study

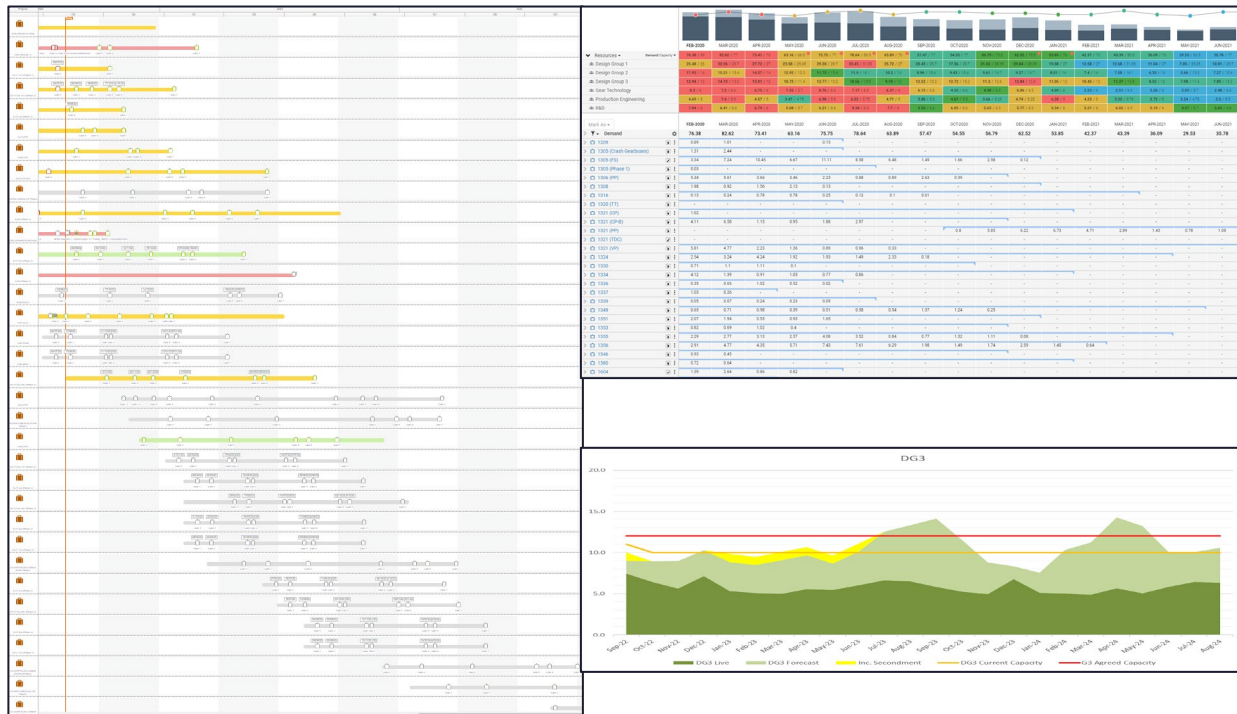
- In late 2017 Xtrac featured in a Planview Clarizen case study
 - This was followed by a video case study in 2018



- Both focused on the savings Xtrac had realised due to moving to Planview Clarizen.

Strategic planning

- 24 month planning
- Template driving actual resource projection
- Built-in powerful heatmap in Capacity Planning
- Exported data used for 'traditional' stacked area charting



Problem with remote collaboration

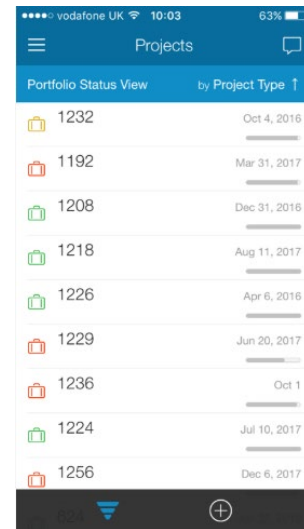
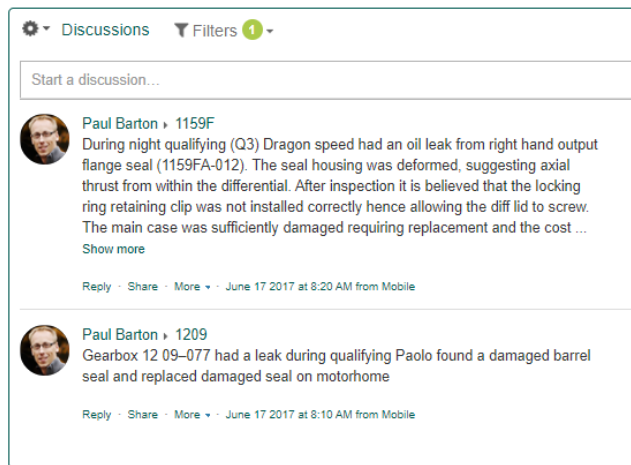
- Collaboration is key to efficient team delivery
 - But what if the team is in different places or even time zones?



- And how to you collaborate when you have poor access to the tools?
 - Little or no access to WiFi means no collaboration with office.
- These are the issues Xtrac faces supporting our customers at tests and races.

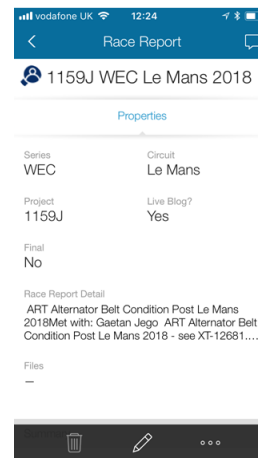
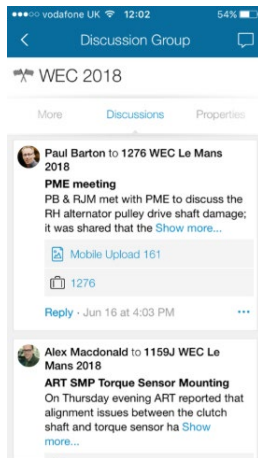
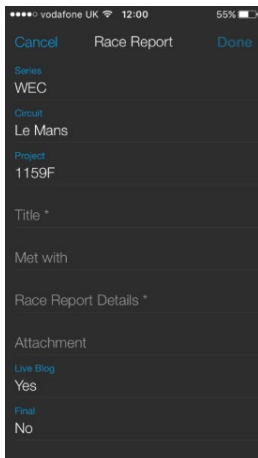
The Xtrac solution

- Solution needed to use basic core functionality and be usable with the Mobile App
- Xtrac already used 'Discussions' to collaborate
 - But could we expand this into our race report functionality?



The Xtrac solution

- Xtrac Race Reporting tool used newly introduced Planview Clarizen functionality.



- Able to consolidate the reports into a single thread and export to a MS Word report.

The Xtrac solution

- At 2019 Le Mans race



Alex Macdonald ▸ 1159D - WEC - Le Mans - 2019

ByKolles - Shift Strategy Assistance

Met with: Boris Bernes



Boris called to request Xtrac's assistance while optimising their shift strategy during free practice on Wednesday. PBa to speak to Martin when he arrives at the circuit.



1159D

Cc: WEC 2019

Reply · Share · More ▾ · June 12 2019 at 3:49 PM from Race Reports



Paul Barton

Met with Martin Kogler; they had an E-shift loom issue yesterday, which was identified by Norbert (Megaline); they replaced the E-Shift. The team have little data, but are logging the barrel at 500Hz; they have ~20mV noise, and 50mV overshoots from nominal on good shifts (no D2D's seen). The issue they are having is engine ringing on upshifts in the tall gears, so have reduced the amount of cut; good driver feedback so far. PB advised that changing the ignition ramp-in could also help with this, so we can review with Gibson and Norbert after the session. The other observation was spikes in the barrel track signal; this is typically "noise/data", but with E-Shift it could be real movement (?). The team currently have no data from the E-shift, so will add the channels.

June 12 2019 at 4:37 PM from Mobile · More ▾

The Xtrac solution

- Oliver Grant, Head of R&D at Xtrac, working in the office responded to the discussion thread.



Alex Macdonald • 1159D - WEC - Le Mans - 2019

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June 12 2019 at 4:37 PM from Mobile · More



Oliver Grant

The noise sounds a bit worrying Paul. Let me see if I can find the data from Spa that led to sudden downshifts and a snapped crank. They had multiple E-shift channels then, so it's odd that they have lost them now. The tell tale was current draw which showed the E-shift was trying to move without the driver pulling the paddle.

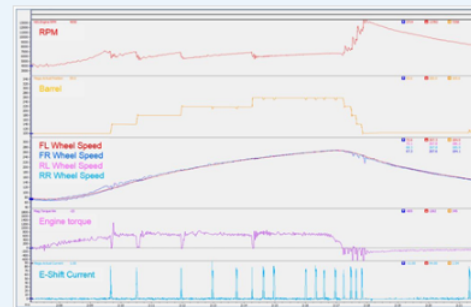
June 12 2019 at 4:40 PM · More



Oliver Grant

See attached. Current channel "Mega.Actual Current" is spiking when the E-shift tries to downshift as the car accelerates down to Eau Rouge. Corresponding movement in the barrel, which perhaps doesn't look like the noise you describe. It can't get past the preload phase because of the engine torque on the dogs. When the driver finally comes off the throttle it downshifts from 6th to 1st in ~0.5s. I guess the driver should have taken Eau Rouge flat? We never really got to the bottom of this to determine if it was a loom issue sending false signals to the E-Shift, or the E-Shift malfunctioning.

KollesSpaDownshift.JPG



June 12 2019 at 4:48 PM · More



Paul Barton

Thanks Ollie, not sure why they no longer have the data channels; we identified them in the CAN Spec, so Martin is going to follow up with Norbert. No further info tonight, but agreed we need to check the noise!

June 13 2019 at 2:00 AM from Mobile · More



Oliver Grant

Nice one Paul. Perhaps they lost them in the engine spec swap? I bet they had a lot of channel names change at that point.

Sent from my iPhone

June 13 2019 at 5:13 AM from email · More



Alex Macdonald

PBa actually met with Martin Burmeister, not Martin Kogler. It seems Martin Burmeister is now freelance, but was formerly Applications Engineer at Cosworth.

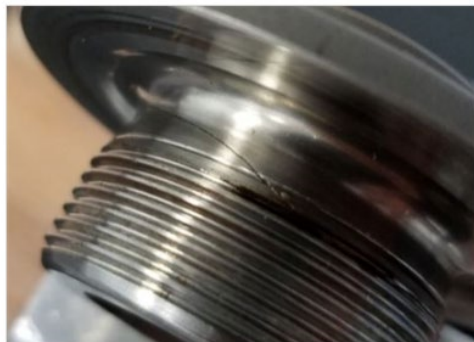
June 21 2019 at 5:08 PM · More

- Issue at track was investigated, redesigned, manufactured and delivered in 4 weeks

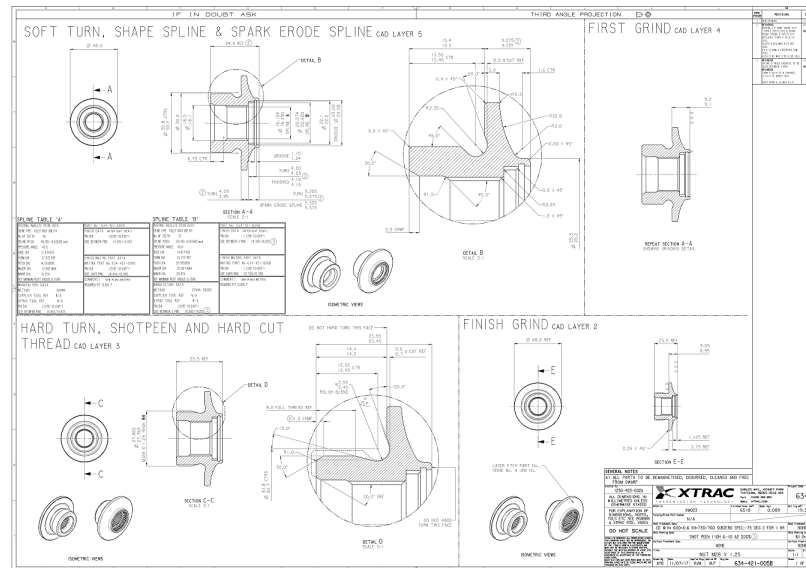


Car: Mazda DPI

During pre-Laguna service on gearbox 1159FD-072 (SO93349), one shaft nut (634-421-005B) was found to be cracked. The part covered 4,000km in gearbox 1159FD-038 before completing 1,115 km at Rd America in 1159FD-072 so should have had 885km remaining. No mitigating circumstances known; to date this is the only B spec shaft nut failure we have experienced.



Cc: IMSA 2019



The challenges

- Details of the challenges faced
 - How to collate in project?
 - How to create a live blog function?

152 Race Reports

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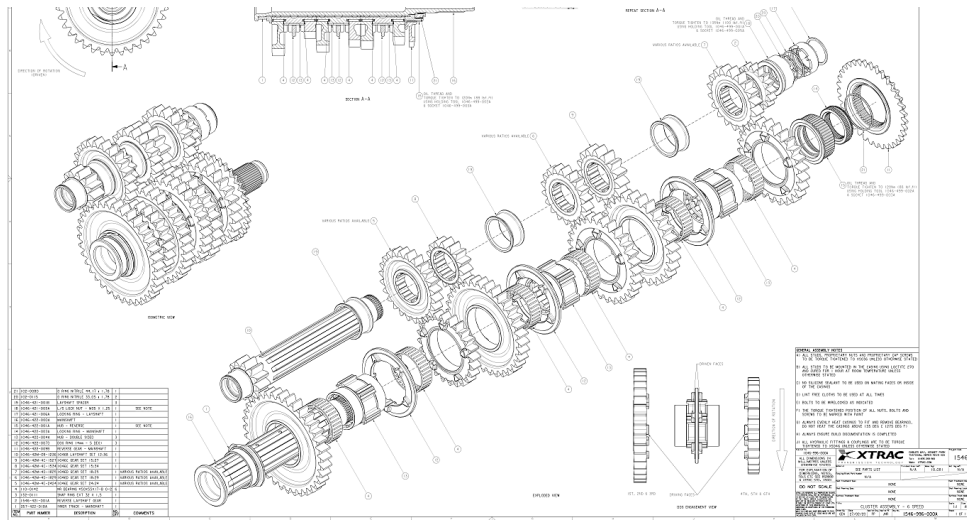
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<input type="checkbox"/>	Event Series	Event	Series	Circuit	Name	Race Report Detail	Files	Created By	Created ...	Last Updated By
	WEC 2018		WEC	Le Mans	 1159F WEC Le Mans 2018	Villorba Corsa Stephane reported grease smears surrounding the lh case breather on 1254-650 following Q1. PS and NS inspected the unit and advised the team clean it, run in Q2 and inspect afterwards.		Natalie Steve...	14/06/18	Natalie Steve...
	WEC 2018		WEC	Le Mans	 1159F WEC Le Mans 2018	Graff shifting concerns The team reported some "failed" shifts, so asked us to review the data; quick summary of findings. 1) Downshift pre-loaded, but failed to release dog ring, no blip present, driver had foot on throttle above 10% TPS threshold. 2) As above 3) Upshift request, pre-loaded but the cut took a long time to release the dog ring; the car was up on stands so PB believes there was insufficient reversing torque to enable release. 4) Reported repeat failures to engage 1st gear from Neutral, one instance found in datas which was a standard dog-to-dog.		Paul Barton	16/06/18	Paul Barton
	WEC 2018		WEC	Le Mans	 1159F WEC Le Mans 2018	DavyTech Alternator Retention After night qualifying on Thursday, the alternator pulley k-nut was found to be loose. It transpired that the installation had not been refitted with Loctite 648 as the team did not have the correct compound. The pulley was also showing heavy signs of wear on the abutment face. A new pulley, k-nut and stud were fitted with Loctite 270 (k-nut) and 648 (stud) by Xtrac. The installation was checked after further running and the k-nut was found to be loose and new pulley showing signs of wear. Xtrac schemed 3 off alternative retention methods which were discussed with Davy - it was mutually agreed to implement 'scheme 3' (see attached). The components were modified by Xtrac at the circuit and fitted for Saturday morning practice. Post practice feedback reported no issues.		Alex Macdonald	16/06/18	Alex Macdonald

Expected Benefits

- Race Reporting was expected to give 2 main benefits
 - Rapid response from office to track support allowing rapid response to customer.
 - Rapid commencement on updates to product due to rapid communication of issue.



Extended Benefits

- Post race meeting word based report replaced with live blogging
- Saving over £35,000 each year

1 Works Manufacturers

1.1 Honda Team Dynamics (including Simpson Racing)

Car	NGTC Honda Civic Type R	Xtrac Product	1046
Drivers	Matt Neal, Gordon Shedden, Matt Simpson	Overall race result	See results
Met with	Jason Cull, Barry Hoggan, James Rodgers	Ch'ship position	See results

Team Dynamics reigning champion Gordon Shedden had the worst race weekend in two years as he found himself eliminated from the first two races on the day. Matt Neal converted his competitive qualifying position into a solid fifth in race one, but contact with Josh Cook resulted in a DNF for race two. Xtrac delivered emergency differential cover O-ring (102-0436) to the team on Sunday. There were no gearbox issues for the team this weekend.

- No actions required

1.2 MG – Triple Eight Race Engineering (888)

Car	NGTC MG6 GT	Xtrac Product	1046
Drivers	Aron Taylor-Smith, Josh Cook	Overall race result	See results
Met with	Alex Steele, Enzo Ferrari, Mick Cook	Ch'ship position	See results

Xtrac scrutinized Josh Cook's ratios and differential after qualifying, and no issues were found. Cook has received a race ban after a fourth reprimand at Rockingham. Cook's ban means he will be required to sit out the first race at Silverstone. There were no gearbox issues for the team this weekend.

- No actions required

Lessons

- **Plan thoroughly**
 - Developing a full plan before starting helps ensure clarity of the objectives
 - But remaining agile in mentality so we can adapt
- **Keep the goal in focus**
 - Multiple times we had the 'we could get it to do this' moments.
 - Keeping the original objective in focus stopped us getting distracted.
- **Push the boundaries**
 - Just because no one has done it before and we're not sure how to do it, should not stop us from trying

Added value of Planview Clarizen

- Increased collaboration
- Reduced workload post-event
- Increased awareness of track support activities
- Just because no one has done it before and we're not sure how to do it, should not stop us from trying

planview®
ACCELERATE™
COLLABORATE. INSPIRE. GROW.

September 13-14, 2022

Thank you!

Phil Smith

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