RUA LABORATORIES

FIELD EVALUATION AND PRODUCT FEEDBACK REPORT

CC Athletics IMTP Platform

for Force Plates

PRODUCT MANUFACTURER



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1. PURPOSE OF REPORT

This report summarises my experience using and evaluating the CC Athletics IMTP Platform since its delivery to Rua Laboratories on 13 July 2026.

The purpose of the evaluation was to assess the IMTP Platform from several perspectives, including:

- Delivery and packaging
- Initial presentation and build quality
- Integration with the CC Athletics force plates
- Durability under realistic and deliberately demanding gym/laboratory conditions
- Performance during standard isometric mid-thigh pull (IMTP) testing
- Ease of use with athletes and clients
- Use in less conventional isometric testing positions
- Restraint-system performance
- Force-time data quality
- Potential hardware and software refinements

The comments below are based on practical use within a working elite human-performance laboratory rather than a standardised engineering or materials-testing protocol. Where I have suggested changes, these should therefore be viewed primarily as practical field observations and ideas for consideration by CC Athletics' product development and R&D teams.

> **Overall, my experience with the IMTP Platform has been extremely positive.**

2. EXECUTIVE SUMMARY

The IMTP Platform has proven to be an extremely robust, visually impressive and highly practical addition to the CC Athletics force plate system.

From a laboratory and client-facing perspective, it significantly enhances the presentation of the force plates. The assembled system looks purpose-built, professional and premium, and this has been independently commented upon by multiple clients.

Structurally, I have had no concerns with the unit. It has tolerated high-force IMTP testing, deliberate impact testing, repeated daily handling and experimentation with a range of non-standard isometric positions without any structural failure or meaningful damage.

I personally produced approximately 470 kg of peak force during IMTP testing, with no observable movement, slippage or failure of the plates, IMTP Platform, eyelets or ratchet straps.

The supplied ratchet straps are particularly good. The branding improves the overall presentation of the system, while the distance markings along the straps are extremely useful in practice and substantially reduce setup time when attempting to achieve a level bar position.

The main areas I believe could warrant further consideration are:

- Improving the external presentation of the shipping packaging.
- Increasing the size and/or clearance of the IMTP Platform eyelets.
- Offering additional or longer ratchet straps for non-standard testing positions.
- Investigating the mechanical oscillation visible in force-time data when performing isometric testing through a strap- or chain-based restraint system, including the likely contribution of athlete anterior-posterior sway.
- Considering whether the software could differentiate between testing performed in the IMTP Platform and testing performed against a completely rigid fixed structure.
- Providing clearer guidance around system weight/tare procedures where the athlete is holding or supporting a bar that is not independently fixed.

Please note, none of these observations have prevented the IMTP Platform from performing its primary role extremely well.



Figure 1: Admiring IMTP Platform for the first time

3. DELIVERY AND PACKAGING

The IMTP Platform arrived on 13 July 2026 in excellent physical condition. There was:

- No structural damage
- No visible bending
- No visible scuffing
- No damage to the paint/powder coating
- No indication that the frame had been mishandled during transport

The product itself had clearly been well protected during transit.

My only observation relates to the external presentation of the packaging. The frame arrived primarily packaged using cardboard and tape. Although this successfully protected the product, the external presentation did not look quite as premium as the product contained within it. This is very much a presentation point rather than a criticism of the protective function of the packaging.



Figure 2: IMTP Platform Packaging

Videos (Please click links below)
IMTP Platform Packaging

IMTP Platform Unboxing

When my CC Athletics force plates originally arrived, they were also protected using relatively simple packaging materials, but the presentation was extremely neat, clean and professional. Supporting photographs and video of the original force plate unboxing are included for comparison.



Figure 3: Force Plates, Pro Foam Frame & Hard Case Packaging

Videos (Please click links below)
Force Plate Packaging

Force Plate Unboxing

For a product as visually impressive as the IMTP Platform, there may be an opportunity to improve the initial customer experience further. At the highest end, this could potentially involve:

- A dedicated external shipping carton
- Purpose-designed internal protection
- Custom foam or protective inserts (like with force plates)
- Branded packaging

However, I do not believe an elaborate packaging solution is essential. At a minimum, I would simply recommend ensuring that the external packaging is consistently clean, neat and professionally presented.

Again, it is important to emphasise that the IMTP Platform itself arrived in perfect condition, and the existing packaging performed its primary protective function successfully.

4. INITIAL PRODUCT PRESENTATION AND BUILD QUALITY

My immediate impression of the IMTP Platform itself was extremely positive. It looks and feels like a genuinely premium piece of equipment.

Metalwork

The quality of the metal fabrication is excellent. I observed:

- Clean edges
- No obvious rough or unfinished surfaces
- No problematic exposed welds
- Excellent fit and finish
- A very solid overall construction

The system gives an immediate impression of durability.

Finish

The paint/powder-coat finish is particularly impressive. Visually, the frame looks excellent within a laboratory environment and complements the silver CC Athletics force plates extremely well.

From a customer-facing perspective, this is important. The IMTP Platform does not simply make the force plates more functional; it also makes the entire testing station look more complete, sophisticated and purpose-built.

In a commercial laboratory environment, where clients are often seeing professional force testing equipment for the first time, presentation matters considerably. The IMTP Platform succeeds extremely well in this regard.



Figure 4: IMTP Platform sitting pretty, looking well

5. WEIGHT AND HANDLING

The substantial construction does mean that the IMTP Platform/baseplate is relatively heavy. Personally, I have had absolutely no difficulty moving or positioning it.

However, I could see the size and weight potentially being more challenging for:

- Smaller users
- Less physically strong users
- Staff who may need to frequently relocate the system
- Environments where the system needs to be repeatedly stored and redeployed

As part of the practical evaluation, I asked a female member of staff to move the baseplate. Video of this is included below.

I would not necessarily recommend reducing the mass as doing so would compromise the excellent rigidity and durability of the frame. Its substantial construction is one of its strengths. However, handling is worth considering when assessing future versions of the system.

If portability becomes an important design objective, potential options could include integrated handholds (as mentioned by my female colleague, Emma, in the video linked below) or another simple means of improving carrying ergonomics without compromising structural integrity.

Videos (Please click links below)
Ease of Moving Frame Demo with Colleague



Figure 5: Demo of moving frame

6. FORCE PLATE INTEGRATION

The force plates fit into the IMTP Platform extremely well. Once installed:

- The plates sit securely within the frame.
- There is very little unnecessary movement.
- The system looks integrated rather than appearing to consist of separate components.
- The silver force plates complement the darker IMTP Platform finish extremely well.

The frame also sits extremely well on the laboratory floor.

Rubber Feet

The rubber feet are an essential component and work very well. They assist with:

- Stability
- Floor protection (crucial)
- Minimising unwanted movement
- Providing secure contact with the underlying surface

I would consider these a critical part of the overall design rather than a minor accessory.



Figure 6: Force Plates seated in IMTP Platform

7. EYELET SIZE AND CLEARANCE

One of the clearest potential hardware improvements relates to the restraint eyelets. The current eyelets work very well with the supplied ratchet straps.

However, the available opening and clearance become more restrictive if the user wishes to attach:

- Carabiners
- Chains
- Alternative restraint systems
- Larger connectors

Because the force plates sit relatively high in relation to the eyelets, there is limited space available around the opening. Increasing the internal diameter of the eyelets and/or creating slightly greater clearance around them would substantially increase the flexibility of the IMTP Platform without changing its fundamental design.

Supporting photographs demonstrate this clearly.

This point has already been discussed with Ulrik and Claes, and I understand that larger eyelets are being considered for a future version of the frame. I believe this would be a worthwhile modification.

Videos (Please click links below)
Initial Thoughts & Carabiner/Eyelet Clearance

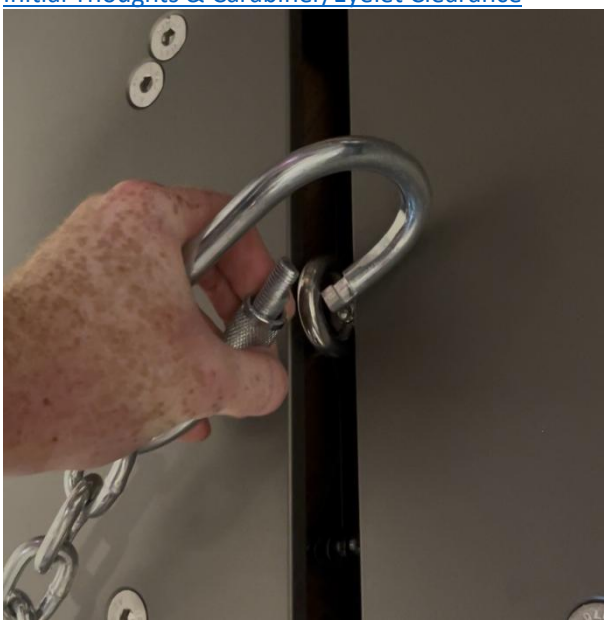

Figure 7: Unable to fit carabiner through centre eyelet



Figure 8: Side view of eyelet clearance with plates seated in IMTP Platform

8. PRACTICAL DURABILITY TESTING

I deliberately subjected the frame to considerably harsher treatment than would normally be expected during laboratory use. The objective was not to perform a formal materials test, but rather to simulate the type of accidental impact and general abuse that equipment may experience over many years within a busy strength and conditioning facility or commercial gym.

Chain and Carabiner Impact

Chains and carabiners were repeatedly allowed to impact the surface of the IMTP Platform to assess the durability of the powder coating. This produced some minor superficial marking and scuffing, as would reasonably be expected. Importantly:

- No large sections of coating detached.
- No significant flaking occurred.
- No meaningful underlying structural damage was observed.

Considering the severity of the impacts, I was impressed by the durability of the surface finish.

Videos (Please click links below)
Powder coating durability testing

Markings on powder coat post test



Figure 9: Powder coating markings/damage post test

25 kg Dumbbell Impact Testing

I also deliberately struck the frame with a 25 kg dumbbell in several locations. The aim was to simulate potentially harsh gym-environment events such as accidental contact with dumbbells or weight plates dropped from a height. Particular attention was given to:

- External frame sections
- Plate-support areas
- Corners
- Inserts surrounding the force plates

Despite repeated impacts, I was unable to:

- Bend the structure
- Dislodge any components
- Break any inserts free
- Produce any significant structural damage

The IMTP Platform tolerated this extremely well. Videos of this testing are included below.

From a practical durability perspective, I have very high confidence in the structure.

Videos (Please click links below)
25kg DB Testing



Figure 10: 25kg DB impact testing

9. STANDARD ISOMETRIC MID-THIGH PULL TESTING

The primary application evaluated was the bi- and unilateral isometric mid-thigh pull. Setup was straightforward and the system performed extremely well.

During my own testing I produced peak forces during a bilateral IMTP approaching approximately 470 kg, with no issues involving:

- Frame movement
- Force plate movement
- Eyelet integrity
- Ratchet strap integrity
- Bar movement
- Restraint slippage

The entire system remained secure. This gave me considerable confidence in the IMTP Platform when using it with strong athletes and clients capable of producing very high absolute forces. I finished after the SL IMTP's with some violent yanks/pulls to further test the IMTP Platform and ratchet straps (videos linked below).

Videos (Please click links below)
IMTP's up to 470kg

SL IMTP's and violent yanks/pulls

Raw .CSV Files for the 470kg pull (Please click links below)
470kg IMTP



Figure 11: IMTP's up to 470kg

10. RATCHET STRAP SYSTEM

The supplied ratchet straps deserve specific mention. From both a practical and presentation perspective, they are excellent.

The CC Athletics branding looks extremely professional and contributes to the premium appearance of the complete setup. More importantly, however, the distance markings along the straps are extremely useful.

When setting up an IMTP, achieving the same restraint length on both sides of the bar can otherwise become surprisingly time-consuming. The markings allowed me to rapidly:

- Select the desired bar height.
- Match the left and right restraint lengths.
- Confirm that the bar is approximately level.
- Make minor adjustments where required.

This is a relatively small design detail that has a disproportionately positive effect on day-to-day usability. I would strongly recommend retaining this feature.

Videos (Please click links below)
Ratchet straps post test



Figure 12: CC Athletics Ratchet Strap

11. CLIENT TESTING AND WORKFLOW

The IMTP Platform has now been used repeatedly with clients within Rua Laboratories. The practical workflow has been extremely smooth.

Once the desired bar position is determined, the marked straps make it very easy to recreate equivalent restraint lengths on the left and right sides. The bar can then be positioned, the straps passed over each end and secured rapidly.

This makes the system very suitable for a commercial testing environment where unnecessary setup time between athletes needs to be minimised. For example, Female 1 and Male 1 in the accompanying videos were tested consecutively within the same session. Changeover between the two athletes was straightforward, and the setup time was comparable to that required when adjusting a fixed IMTP frame or squat rack.

Video from three client testing sessions is included with this report below. Consent was obtained for these recordings to be shared with CC Athletics.

Videos (Please click links below)
Female 1

Male 1

Male 2



Figure 13: Force Plates and IMTP Platform in action

12. CLIENT PERCEPTION AND BRAND PRESENTATION

One of the unexpected positives has been the response from clients. The CC Athletics force plates themselves already attract considerable attention.

Multiple clients have independently commented on their appearance and perceived quality, using descriptions such as:

- “Professional”
- “Deadly”
- “The real deal”
- “The best of the best”

The addition of the IMTP Platform and branded restraint straps appears to strengthen this impression further. On one occasion, after seeing the complete testing setup, a client commented:

> *“Wow… you really have everything here.”*

For me as a laboratory owner, this was a particularly valuable piece of unsolicited feedback.

High-quality data is obviously the priority, but professional testing equipment also forms part of the client’s overall perception of the laboratory and the service being provided. The complete CC Athletics system looks highly professional and contributes positively to that experience.



Figure 14: Force Plates and IMTP Platform in action again

13. TESTING OUTSIDE THE STANDARD IMTP POSITION

I deliberately experimented with the IMTP Platform beyond its primary IMTP application. This included:

- Zercher-position isometric pulls
- Back-squat-position isometric pulls
- Overhead isometric pulls

Both straps and chains were investigated. The frame itself remained completely stable throughout these tests.

These experiments highlighted several interesting considerations for users wishing to expand the IMTP Platform beyond conventional IMTP testing. Oscillations (as mentioned in the videos) will be discussed later in this report.

**Note: video only is available for the Zercher, back-squat and overhead trials. The pulls were not saved, as that session was intended to demonstrate the strap-length requirement rather than to examine force-time data. I would be happy to repeat this testing with data capture if it would be useful.*

Videos (Please click links below)
Zerchers w/ ratchet straps

Zerchers w/ chains

Back Squat Iso w/ chains

Overhead Squat Iso w/ chains



Figure 15: Zerchers with ratchet straps

14. REQUIREMENT FOR LONGER OR ADDITIONAL STRAPS

For higher bar positions such as back squats, Zercher variations and overhead positions, the bar is located considerably further from the force plates. The standard straps are consequently less suitable for some of these positions.

A simple solution would be to make available either:

- A longer version of the existing strap; or
- Additional straps that could be connected where required.

This does not necessarily need to form part of the standard IMTP Platform package. An optional extended strap kit could be an effective solution for laboratories wishing to perform more unconventional testing.

This would significantly expand the potential applications of the IMTP Platform without adding unnecessary components for users interested only in IMTP testing.



Figure 16: Back squat Iso's with chains



Figure 17: Overhead squat Iso's with chains

15. CHAINS, STRAPS AND FORCE-TIME OSCILLATION

One of the most technically interesting findings during the evaluation relates to oscillation within the force-time signal.

When chains were used to connect the athlete/bar to the IMTP Platform, clear oscillations were visible within the force plate data. Instead of a relatively smooth rise toward peak force and subsequent force plateau, the signal contained repeated peaks and troughs.

This behaviour becomes increasingly relevant as the restraint system becomes longer, as would occur during:

- Back-squat testing
- Overhead testing
- Other high-bar-position isometric assessments

The mechanical behaviour is likely related to the compliance, movement and oscillation of the restraint system rather than the force plates themselves. For this reason, I would recommend avoiding chains where the objective is the cleanest possible force-time signal. Straps should be preferable.

However, some oscillation was also visible during client testing using the IMTP Platform and supplied straps. Across three recorded clients, force-time traces demonstrated visible oscillatory behaviour, with the reported peak force occasionally corresponding to the highest point of an oscillatory wave rather than an obviously sustained force level.

Notably, my own pulls using the IMTP Platform and supplied straps produced comparatively little oscillation, despite using the same restraint system and generating substantially higher absolute force. This suggests the behaviour is not an unavoidable consequence of the strap restraint itself.

Supporting videos and force-time data are included. Possible mechanical explanations for this behaviour, including athlete movement during the pull, are considered in the following section.

Videos (Please click links below)
Ratchet Straps vs. Chains - Visible Oscillation
Corresponding Raw .CSV's for the pulls in *this video: 470kg IMTP & Client IMTP with chains*
Videos of pulls: IMTP's up to 470kg & *IMTP with chains - oscillations*

Raw .CSV Files for Male 1 oscillations (Please click links below)
Male 1 IMTP with ratchet straps
Corresponding video: Male 1

Raw .CSV Files for Female 1 oscillations (Please click links below)
Female 1 IMTP with ratchet straps
Corresponding video: Female 1

Raw .CSV Files for Male 2 oscillations (Please click links below)
Male 2 IMTP with ratchet straps
Corresponding video: Male 2

16. MECHANICAL VERSUS SOFTWARE CONSIDERATIONS

I believe the oscillation question potentially warrants investigation from both a hardware and software perspective.

Mechanical Considerations

My own interpretation is that a considerable proportion of the oscillation observed in the force-time curve originates from small anterior-posterior rocking or sway of the athlete during the pull, rather than from the force plates themselves.

In a fixed frame or squat rack setup, the bar is mechanically constrained by an immovable structure, and this degree of athlete movement is largely eliminated. With a portable strap-based restraint, however, some compliance within the system permits a small amount of anterior-posterior displacement, and I suspect this is effectively unavoidable rather than a fault of the IMTP Platform.

This interpretation should be readily testable. Centre of pressure data, using the Force Plates “Balance” function, would indicate whether anterior-posterior displacement coincides with the oscillatory peaks and troughs in the force trace and would either support or exclude the hypothesis relatively quickly.

If athlete movement is the primary source, the practical objective becomes minimising it rather than eliminating it. Two variables appear worth examining.

The first is footwear. The clients in the accompanying videos were tested in running shoes with soft, compliant midsoles, which are likely to permit additional ankle and whole-body sway under high force. My own testing was performed in relatively minimal, firm-soled gym shoes (Inov-8 FG 300 & Nike MetCons), and produced comparatively little oscillation. Minimalist or rigid-soled footwear, or barefoot testing, may therefore provide a more stable base of support.

The second is athlete experience and bracing ability. Producing and holding a maximal isometric effort in a stable position is a skill, and an athlete unfamiliar with the task may be more likely to rock or resettle during the pull. This may partly explain why the oscillation was pronounced in client traces and minimal in my own.

These two variables are confounded in the data collected so far and cannot be separated from it. Both would be straightforward to isolate under controlled conditions, and doing so would establish whether the oscillation is primarily a hardware characteristic or primarily an athlete characteristic.

It may also be useful to investigate whether some of the oscillation originates from small amounts of compliance elsewhere within the complete restraint system. Potential areas for investigation could include:

- Strap material compliance
- Bar movement/bending
- Ratchet mechanism movement/slippage
- Interaction between the restraint and the eyelets
- Athlete footwear and base of support

I would not recommend changing the current straps, as they function extremely well operationally. However, there may be value in comparing the current configuration against a very low-compliance restraint system (e.g. a fixed-frame IMTP station) under controlled conditions.



Figure 18: Client 1, example of soft soled cushioned shoe



Figure 19: Client 2, example of soft soled cushioned shoe



Figure 20: Client 3, example of soft soled cushioned shoe



Figure 21: Client 4, example of soft soled cushioned shoe



Figure 22: Inov8 FG 300's minimalist gym shoe that I wore during testing

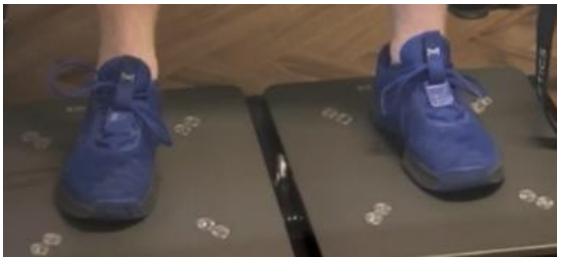

Figure 23: Nike Metcon shoe that I wore during testing. Extremely hard base

Software Considerations

There may also be an opportunity within the software. For example, CC Athletics could investigate whether it is useful to allow the operator to identify the testing configuration as:

- Condition A: Rigid/fixed frame
- Condition B: IMTP Platform/strap restraint

This could potentially allow different processing or reporting approaches where appropriate. Claes was extremely quick to identify and resolve an issue I had previously with jump detection and repeated hops. This may be the same case. Possible areas for investigation could include:

- Appropriate signal filtering
- Graph smoothing
- Peak-force identification
- Sustained-force calculations
- Oscillation detection
- Automated quality-control warnings

I must say though, any additional smoothing or filtering should obviously be validated carefully, and raw data should remain available. The intention should not be to simply hide genuine signal characteristics.

However, if the oscillation is a predictable mechanical characteristic of this style of portable isometric restraint system, it may be possible to account for it more intelligently within data processing and reporting. I believe this is an area worthy of further R&D investigation.

17. COMPARISON WITH A FULLY FIXED IMTP SETUP

For comparison, I have included raw data and video from an IMTP performed by myself using a conventional squat rack in February.

Videos (Please click links below)
IMTP From February

IMTP's up to 470kg
Accompanying Raw .CSV's
IMTP from February

470kg IMTP

The force-time curve obtained using the completely rigid setup appears cleaner than the traces recorded from client testing using the strap restraint. However, I would now be cautious about attributing that difference solely to the restraint system.

My own pulls produced comparatively little oscillation in both configurations. If the strap restraint were the dominant source of the oscillatory behaviour, I would expect it to appear consistently in every trace recorded in that configuration, including my own. It did not.

Two differences between my own testing and the client sessions are relevant here. First, I have considerable experience producing and sustaining maximal isometric force, and am able to hold a stable braced position throughout the pull (lifelong weightlifter vs. lifelong runners/endurance athletes). Second, I was tested in relatively minimal, firm-soled gym shoes (Inov-8 FG 300 & Nike MetCons), whereas the clients were tested in running shoes with soft, compliant midsoles (please see photos of footwear from Section 16).

These two variables cannot be separated from the data collected to date, and the comparison was not controlled (a small number of my trials against three client sessions). I also acknowledge that, as the person evaluating the product, I have an obvious interest in the more favourable interpretation. The observation is nonetheless worth recording, because both variables point in the same direction: a meaningful proportion of the oscillation may originate from the athlete rather than from the IMTP Platform/straps/set-up/etc.

> **On the evidence to date, the oscillation may be as much an athlete variable (bracing, technique, familiarity with maximal isometric effort and footwear) as a property of the portable restraint system.**

If that interpretation is correct, the practical question changes. Rather than asking whether a portable restraint is inherently inferior to a fixed frame, the more useful question becomes which athlete-side variables determine signal quality when a portable system is used, and how testing should be standardised to control them.

For laboratories seeking the absolute cleanest possible force-time signal, a permanently fixed frame may still hold some mechanical advantage. However, this comes at the cost of:

- Portability
- Space
- Flexibility
- Ease of deployment
- Equipment requirements

The major advantage of the IMTP Platform is that it provides a highly portable and flexible solution while retaining the existing force plate system.

I therefore do not consider the difference in signal behaviour to be a fundamental criticism of the IMTP Platform. The IMTP Platform is clearly capable of producing a clean force-time trace, as my own data demonstrates. What the comparison illustrates is that a portable system is likely to be less forgiving of athlete movement than a fixed frame, and that standardising the athlete-side variables therefore matters.

18. SYSTEM WEIGHT / WEIGH-IN CONSIDERATION

The fixed-frame comparison from section 17 also highlighted an important procedural point relating to the weigh-in or tare process.

During the February test I used body mass only during the weigh-in rather than accounting for the complete system mass of me plus the barbell. Because the bar was being held by myself before the actual maximal pull began, even a very small amount of force applied while picking up or supporting the bar could trigger the automated force-onset detection.

As a result, the software would identify the beginning of the pull substantially earlier than my actual maximal effort.

This is important whenever an athlete is physically supporting a bar or another object whose mass is being transmitted through the force plates. Where the bar is completely fixed and independently supported by an immovable structure, this issue is less relevant. However, where the athlete is holding or supporting the bar during the pre-pull phase, the mass of that bar/system should be incorporated appropriately into the weighing/tare procedure.

It may therefore be useful for CC Athletics to include specific guidance within its testing instructions distinguishing between:

Fixed external bar

The bar is completely supported by the external frame and does not contribute meaningfully to the force plate measurement before the pull.

Athlete-supported bar/system

The athlete is holding or supporting the bar, meaning the additional mass must be considered during the weighing/tare process.

A simple clarification within the software or user documentation could potentially prevent onset-detection errors and improve test consistency.

19. MAIN PRODUCT STRENGTHS

Based on the evaluation to date, I consider the major strengths of the IMTP Platform to be:

Build Quality	The system is exceptionally solid and well constructed.
Durability	It tolerated deliberate high-impact testing without significant damage or structural failure.
High-Force Capability	Approximately 470 kg of peak IMTP force was applied without any observable issue.
Force Plate Fit	The force plates integrate extremely well with the frame.
Stability	The system sits securely on the floor, assisted by the rubber feet.
Visual Presentation	The complete unit looks premium and highly professional.
Ratchet Strap Design	The branded, distance-marked straps are an excellent practical feature.
Setup Speed	Athlete setup is fast and repeatable.
Portability vs Fixed Rack	It allows laboratories to perform isometric testing without permanently dedicating a squat rack or fixed structure to the task.
Client Perception	The system reinforces the impression that clients are being assessed using professional, specialist equipment.

20. RECOMMENDATIONS FOR FUTURE DEVELOPMENT

Based on my experience, I would suggest the following areas for consideration.

Priority Product Refinements

1. Larger Eyelets / Increased Eyelet Clearance

Increase the available opening and/or surrounding clearance to better accommodate carabiners, chains and alternative attachment systems. This has already been discussed with Ulrik and Claes and, in my opinion, would be a worthwhile improvement.

2. Investigate the Source of Force-Time Oscillation

My own data suggests the oscillation is not an unavoidable consequence of the strap restraint, since it was largely absent from my own pulls using the same system. Controlled comparison would help establish how much originates from the hardware and how much from the athlete. Conditions worth comparing include:

- Fixed frame
- Current IMTP Platform straps
- Alternative low-compliance straps
- Chains
- Soft-soled versus minimalist, rigid-soled or barefoot conditions

Ideally the same athletes would be tested across conditions, with both experienced and less experienced athletes represented, so that hardware and athlete effects can be separated. Concurrent centre of pressure analysis would be particularly informative, as it would indicate whether anterior-posterior displacement coincides with the oscillations visible in the force trace.

3. Software Testing-Condition Selection

Consider allowing users to identify whether an isometric test is being performed using a rigid fixed frame, or the IMTP Platform/strap configuration. This may facilitate condition-specific processing, quality control or reporting if supported by subsequent validation.

Useful Optional Additions

4. Extended Strap Kit

Offer longer or additional straps for laboratories wishing to perform:

- Zercher isometrics
- Squat-position isometrics
- Overhead isometrics
- Other unconventional tests

This could be sold as an optional accessory rather than altering the standard package.

5. Improved Shipping Presentation

Maintain the existing level of physical protection while improving the neatness and presentation of the external packaging. A dedicated carton or premium insert system could be considered if CC Athletics wishes to create a more premium unboxing experience.

6. Handling Considerations

Consider whether integrated handholds or another simple carrying feature could improve the ergonomics of moving the baseplate for smaller users without compromising its rigidity.

Documentation / User Education

7. Clarify Weigh-In and System-Mass Procedures

Provide guidance explaining when external bar/system mass should be included within the weighing/tare process, particularly where the athlete is supporting the bar before the pull.

8. Guidance on Chains Versus Straps

For users seeking high-quality force-time data, I would recommend that CC Athletics encourages the use of straps rather than chains. Chains may be useful experimentally but appear considerably more likely to introduce mechanical oscillation, particularly at longer restraint lengths.

9. Footwear Standardisation

Subject to validation, it may be worth advising users to standardise footwear during isometric testing, and to consider minimalist, rigid-soled or barefoot conditions where the cleanest possible force-time signal is required. Beyond any effect on oscillation, standardising footwear would improve test-retest consistency when an athlete is reassessed over time, and comparability between athletes within a squad. A brief note on athlete familiarisation and bracing may be similarly worthwhile, given that less experienced athletes appear more likely to move during the pull.

21. OVERALL ASSESSMENT

My experience with the CC Athletics IMTP Platform has been overwhelmingly positive.

The product arrived undamaged, integrates extremely well with the existing force plates, looks excellent within the laboratory and has demonstrated exceptional structural durability. Despite deliberately treating the frame far more harshly than would be expected during normal use, I have been unable to create any meaningful structural damage. It has also comfortably tolerated very high-force IMTP testing with no observable failure or slippage.

Operationally, the marked ratchet straps are one of the strongest features of the system and make athlete setup significantly faster and easier.

There are certainly opportunities for refinement (particularly around eyelet dimensions, optional longer straps, packaging presentation and further investigation of restraint-system oscillation) but I would regard these as opportunities to develop an already very successful product rather than solutions to fundamental shortcomings.

Perhaps most importantly from my perspective as a laboratory operator, the IMTP Platform makes the CC Athletics force plates feel like a complete professional testing system. It is robust enough for serious strength and conditioning environments, straightforward enough to use repeatedly with clients, visually impressive enough for a premium testing facility and flexible enough to encourage experimentation beyond standard IMTP testing.

> **I have been extremely impressed with the product to date and will continue to use the IMTP Platform extensively within Rua Laboratories.**

Prepared by

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