Azure II™
by ACS

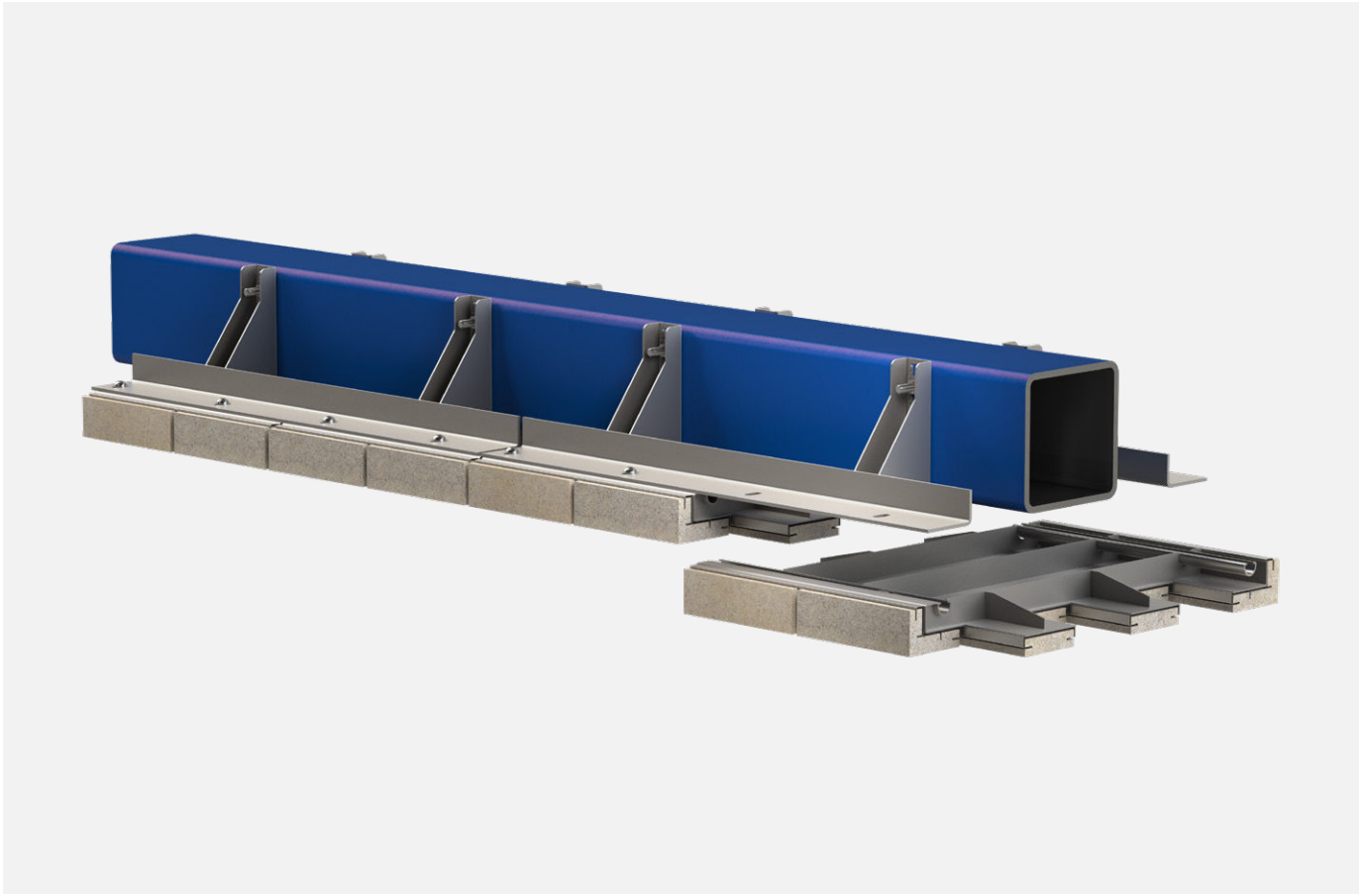
Technical Data Sheet

Azure II™ Bolt Ups



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Product summary

BBA APPROVAL INSPECTION TESTING CERTIFICATION CERTIFICATE 19/5650

Exova

Fire Testing BS EN 1363-1

LUCIDEON

Brick Slip Bond Strength, Durability and Lintels tested by Lucideon

UKCA | CE UKNI

UKCA / CE+UKNI marked

ACS Azure II™ Bolt Ups are lightweight, brick-faced, prefabricated units that are manufactured offsite and supplied to projects with brick-slips mechanically fixed to the stainless steel carrier units. These units can be quickly and easily fixed to the slots provided in ACS masonry support systems to create various hanging brick soffit details. As the brick-slips are mechanically fixed to the underside of a stainless steel unit ensuring the system attains an A1 fire rating. The stainless steel carrier units are designed, welded and fabricated in-line with BS EN 1090 and a certified Factory Production Control system and can therefore be UKCA / CE+UKNI marked under the guidance of the Construction Products Regulation.

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Design & Testing

Both the carrier and the brick-slips have been independently tested by Notified and Technical Approval Bodies to evaluate and validate the physical performance and long term durability of all components. This resulted in the product attaining a BBA Agrément Certificate.

Within the process, the brick slips were tested using the guidance of EAD 090062-00-0404 to evaluate the accelerated freeze/thaw weather resistance of the slips mechanically fixed to the stainless steel carrier, both saturated and dried. The connection strength and impact resistance of the brick-slips were also tested before and after the accelerated cyclic weather tests to validate the integrity and durability of the system. The results of these tests allowed the BBA to state that the product will have a service life of at least 60 years.

The tests included:

— Heat/rain weathering to EAD 090062-00-0404 (weathered samples only)

— Bond strength testing using EAD 090062-00-0404 as guidance (control and weathered samples)

— Impact testing to ISO 7892 (control and weathered samples)

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Product Highlights

A1 non-combustible
BBA certified
Suitable for all heights and types of building
Accelerated weather tested Saturated freeze/thaw Bond strength - pre and post weathered Impact strength - pre and post weathered
Austenitic stainless steel Grade 304 (1.4301), 316 (1.4404)
UKCA / CE+UKNI marked
100% mechanically fixed and resin free



Fire performance

Upon the update to Approved Document B in 2019, the regulations now state that in a 'relevant building' all materials which become part of an external wall must be of a European Classification A2-s1, d0 or A1, classified in accordance with BS EN 13501-1:2007+A1:2009. As stated in the product's BBA Agrément Certificate, all components used within the Azure II™ Bolt Up units are of an A1 classification and so therefore adhere to the relevant standards.

Fire testing has been completed on the Azure range at Exova following the heating and pressure conditions of BS EN 1363-1:2012 with no debonding of bricks seen for 104 minutes.

Thermal performance

As more stringent requirements are introduced to increase the thermal performance of buildings, through the update to Approved Document L, it is important that all products are designed to minimise thermal transmittance. Within the product's BBA Agrément Certificate, example systems were calculated for a number of scenarios. For a 102.5 x 65mm stretcher bond unit this gave a figure of 0.18W/mK, whilst a 102.5 x 215mm soldier bond gave a figure of 0.16W/mK.

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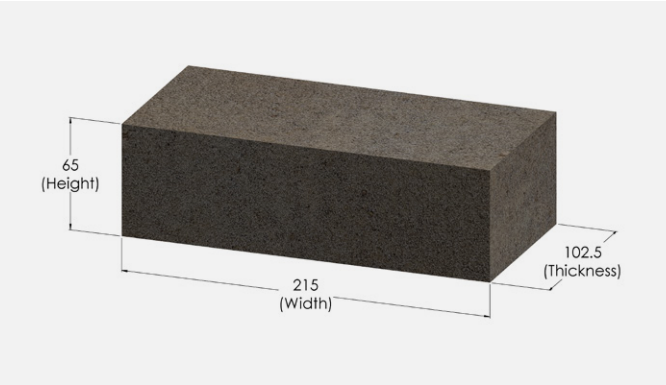
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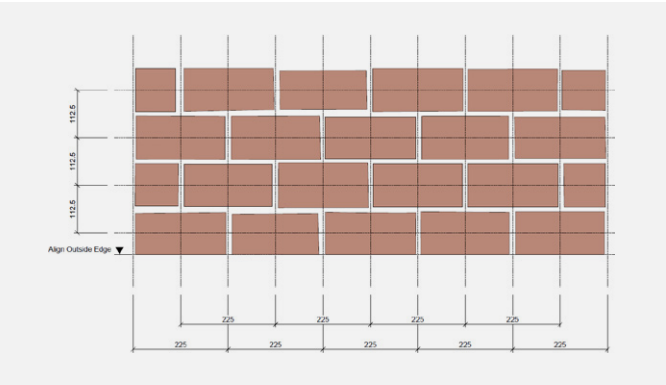
Setting out/size tolerance

Bricks are manufactured to declared dimensional tolerances which acknowledge and take into account the characteristics of both the raw material and the manufacturing process.

The table below sets out these declared dimensional tolerances:

Width	Thickness	Height
Dimensional Tolerance T1		
209 – 221mm	98 – 107mm	62 – 68mm
Dimensional Tolerance T2		
211 – 219mm	100 – 105mm	63 – 67mm





Before the installation and fixing of the Azure II™ soffits commences, it is advisable to dry lay the units in the required bond pattern. This dry lay should be set out to brickwork co-ordinating sizes. Tolerance is accommodated in the 10mm gap between the two units. This tolerance gap should be used to ensure that the units are gauged with the facing brickwork and ensure that they are seamlessly blended once the facing brickwork is completed.

Time taken to set out the units appropriately at this stage will help to avoid setting out errors as work proceeds.

The setting out of the Azure II™ Bolt Ups should be done in much the same way as the hand laid facing brickwork, in which the co-ordinating sizes should normally be 225mm for width, 75mm for height and 112.5mm for thickness. Tolerance in the bricks is accommodated within the mortar joints in slips as it is in the hand laid bricks. Generally bricks should be centred on one another as per the brickwork setting out diagram below. Bricks are manufactured to declared dimensional tolerances which acknowledge and take into account the characteristics of both the raw material and the manufacturing process.

Brick edges should be aligned at the end of a stretch of brickwork, i.e. face/soffit edge, column corners, junctions with glazing, balcony corners and expansion joints.



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Installation

ACS Azure II™ Bolt Up units are designed to be used in conjunction with ACS Masonry Support Systems. Slots are provided in the masonry support horizontal shelf angle to allow the fixings to be installed through the angle and into the Azure Square Nuts located within the integrated ACS Curve Channel in the Azure II™ system.

The Azure II™ units can be adjusted in three directions to accommodate site tolerances, allowing the brick line and level to be set and coursed in seamlessly with the facing brickwork.

It is recommended that a string line is used to ensure that the line and level of the soffit system is achieved and maintained. Vertical adjustment and the minor adjustments in discrepancies in the level between units is achieved by adding or removing up to 10mm of shims between the top of the soffit unit and underside of the slotted masonry support angle.

1. 3mm GRP Horseshoe Shim
2. ACS 31/21 Curve Channel
3. Azure Button Head and Square Nut

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Lateral adjustments and gauging between coursing is achieved by sliding the unit left and right. The square nut allows the unlimited finite adjustments.

Adjustments in the face line of the soffit units are accommodated by the slots in the support angle which provides up to +/- 14mm of adjustment.

As it is a fully mechanical system, the Azure II™ allows for adjustments to be made on-site and also gives installers the safety net of being able to replace damaged bricks before the final install.

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Installation procedure

1. Using the ACS soffit layout drawings provided, carefully dry lay the soffit units to check the setting out. Avoid laying the soffit units directly onto the scaffold boards or ground. Where possible use the foam or styrene board packaging supplied on the pallet when delivered or similar. Check the units are free from any significant damage which should be rectified before fixing the units wherever possible.

2. Set a string line that corresponds to the transition edge between the face and soffit checking the line and level against a known datum or to the facing brickwork adjacent to the soffit opening.

3. Install the square nuts into the ends of the channel and position them generally corresponding to the slots in the masonry support angle. Always ensure at least two fixings are installed in each length of channel.

4. Lift the soffit unit into position to the underside of the masonry support angle. It is often helpful to use hand clamps to locate and hold the soffit unit whilst installing the screws. Care should be taken not to damage the brick slips whilst handling and clamping the units into place.

5. Once positioned, use the M12 Button Head Screws with a Form B Washer to fix down through the slots in the angle into the square nuts that are located in the channel. At this stage only hand-tighten the screws.

6. Release the hand clamps and then adjust the line level and gauging of the soffit unit to the string line and required coursing. Use a spirit level to continually check the level. Shims should be used to ensure that any gaps between the underside of the shelf angle and top of the soffit system are sufficiently packed before tightening.

7. Finally check the soffit front to back using the spirit level. Use packing shims where necessary to level the soffit front to back.

8. Once the units are set and shimmed as appropriate, a calibrated torque wrench with an 8.00mm hexagon socket should be used to torque the screw up to a minimum of 15 and a maximum of 25Nm. Once the brickwork is installed above, the screw cannot rotate or lift and the square nut cannot turn in the channel so the torque setting is mainly just to ensure that the soffit unit is firmly clamped to the underside of the shelf angle.

9. Continue to install the subsequent units following steps 1 to 8, always referring to the layout drawings provided and checking the line, level, gauge and coursing.

10. Any issues identified with the soffit units should be rectified at this stage prior to building the masonry supported off the shelf angle above.

1 Hand clamp

2 Spirit level

3 Calibrated torque wrench

4 String line

5 8mm hex bit

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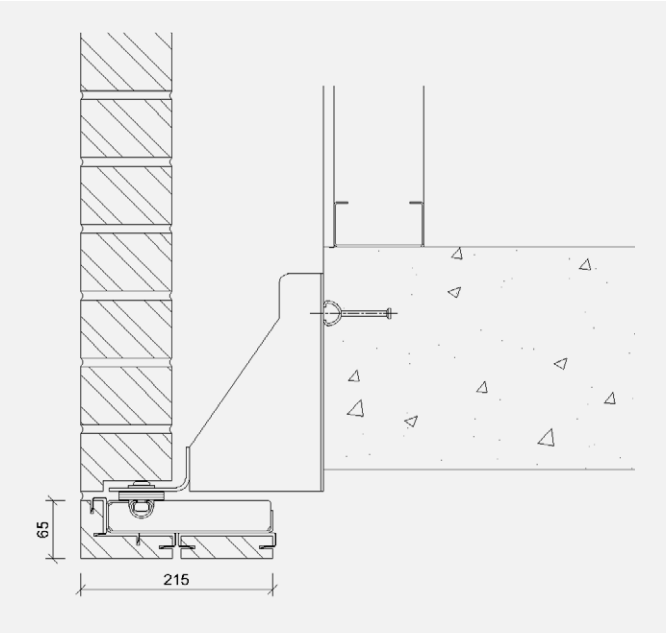
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215 x 65mm stretcher bond soffit bolt up unit

Courses in with facing brickwork and provides continuity with the stretcher/running bond pattern as it returns to the soffit on the underside of the reveal or return. Adjacent soffit units are designed to interlock together, providing seamless continuity of the brick bond once pointed.



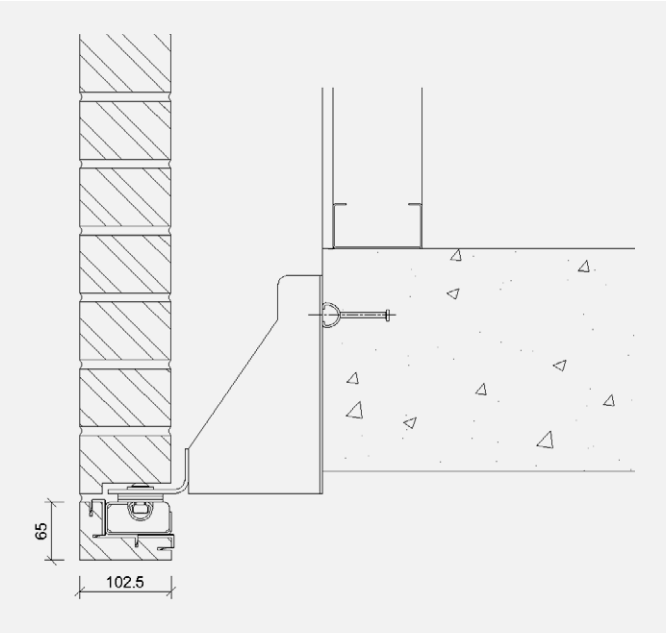
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102.5 x 65mm stretcher bond soffit bolt up unit

Courses in with facing brickwork and providing continuity with the stretcher/running bond pattern as it returns to the soffit on the underside of the reveal or return. Adjacent soffit units are designed to abut with a nominal 10mm joint providing seamless continuity between the face/soffit once pointed.



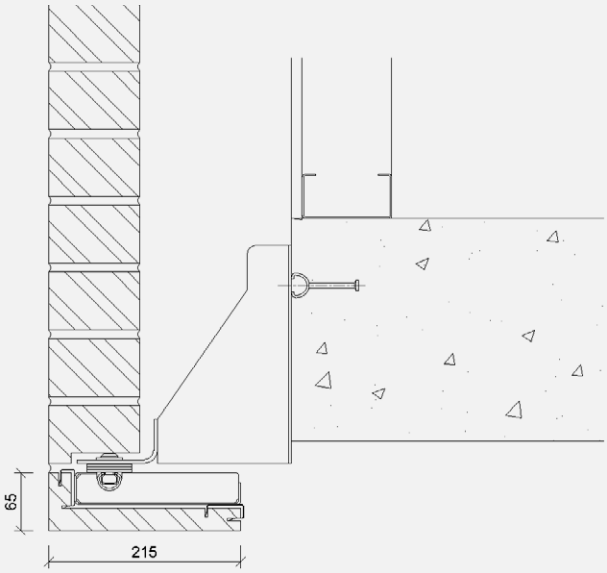
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215 x 65mm header bond soffit bolt up unit

Provides a header detail at openings, returns and reveals to create a feature or detail to differentiate between the facing brickwork, normally a stretcher/ running bond pattern. Adjacent soffit units are designed to abut with a nominal 10mm joint providing a seamless face/soffit effect once pointed.



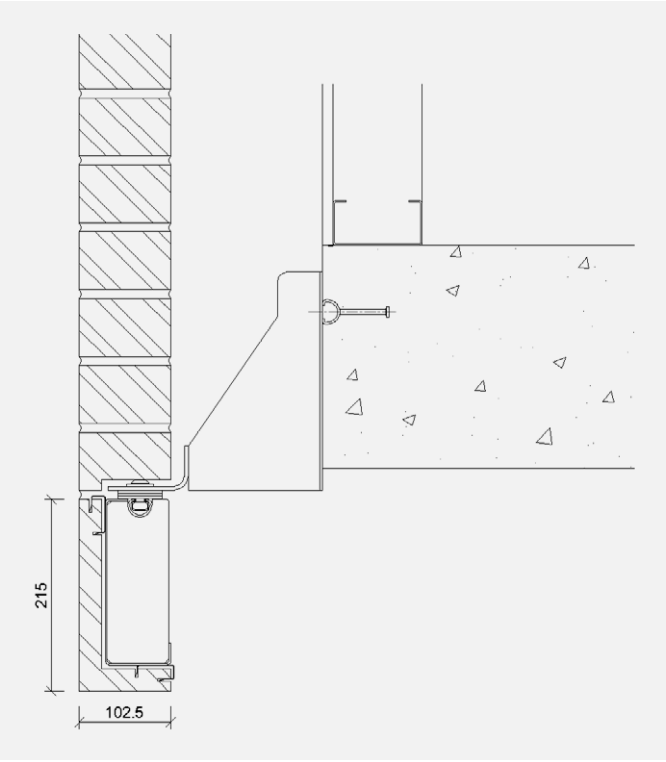
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102.5 x 215mm soldier bond soffit bolt up unit

Provides a soldier course detail at openings, returns and reveals to create a feature or detail to differentiate between the facing brickwork, normally a stretcher/ running bond pattern. Adjacent soffit units are designed to abut with a nominal 10mm joint providing a seamless face/soffit effect once pointed.



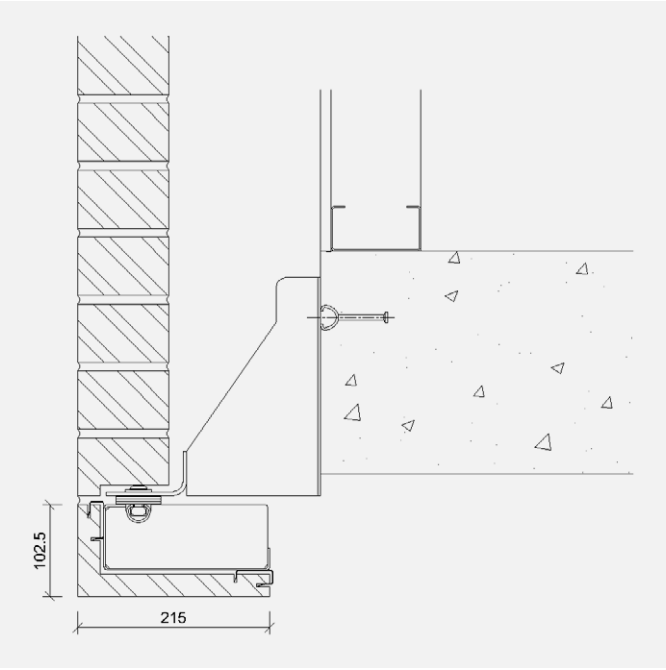
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215 x 102.5mm rowlock soffit bolt up unit

Provides a header/rowlock course detail at openings, returns and reveals to create a feature or detail to differentiate between the facing brickwork, commonly a stretcher/running bond pattern. Adjacent soffit units are designed to abut with a nominal 10mm joint providing a seamless face/soffit effect once pointed.



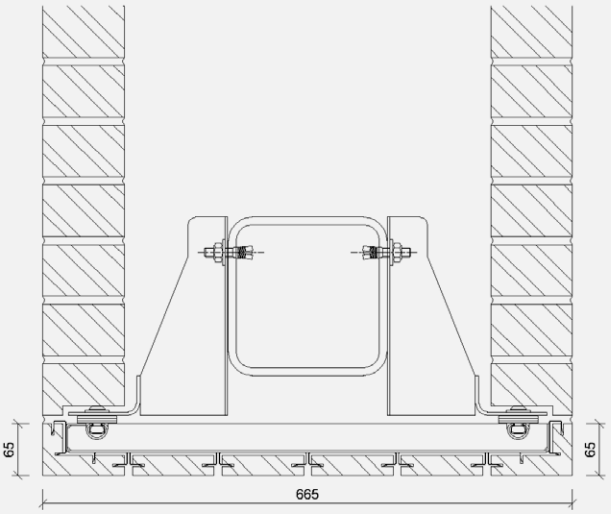
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Stretcher bond special soffit bolt up unit

Courses in with facing brickwork and provides continuity with the stretcher/running bond pattern as it returns into the soffit on the underside of a masonry down-stand or beam. Adjacent soffit units are designed to interlock together, providing seamless continuity between the face/soffit once pointed. Special soffit units can be designed and fabricated to achieve almost any brick bond pattern to create soffits features and details of any size and layout.



ACS

Built on tradition. Driven by innovation.

Get in touch to learn more about how Azure II™ can help you deliver your next project.

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