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Description

Apex Airspace develops new London residential assets on third-party roofs, using factory modular build and an out-sourced supply chain.

www.apexhousingsolutions.co.uk

+44 (0)207 135 2050

Apex Airspace Development

The new, disruptive residential developer

Apex Airspace Development (Apex) enables rooftop owners to unlock the value tied up in their roof asset. This is an innovative, disruptive model, unlocking a whole new market sector in residential development. The addressable market in London alone is in excess of £54bn gross development value. Apex's value-added offering is the provision of a rigorous model that eliminates both the hassle and risk to owners/freeholders in creating this new value. Apex does all the work: assessing the site, sourcing the offsite-made modular product and leaving a finished, sold, apartment. The Apex 'one-stop' model is efficient, using factory-built apartments, reducing the need for capital, whilst maximising surety of supply-costs.

- **Strategy:** Apex's model uses an underexploited resource, the rooftops of existing buildings, to provide new residential accommodation in London; the city ranks among the least intensively populated major cities in the world. Planners are encouraging this type of upward development.

- **Model:** Apex combines a unique skillset with experience of planning, procurement, contacts and delivery in this specialist field. The only capital it deploys is its working capital, with the value uplift being shared with the rooftop owner. The development process is more efficient than 'traditional' methods of development, resulting in large gains shared between all parties. The efficiencies comprise greater control over market-timing, streamlined project delivery, minimised fixed costs through outsourcing and tight control of working capital. As a result of its positioning, the company has first mover advantage. It has engaged with a diverse range of freeholders, including private entities, housing associations and commercial owners, such as Tesco and Aldi.

- **Investment Summary:** In London alone there is over residential £54bn gross development value (GDV) potential on residential rooftops (this excludes commercial sites). This is an unexploited market, with Apex as the sole player with any ambitions of scale. From a start in 2016, Apex has secured a pipeline of circa £50m GDV. This materially enhances and protects anticipated returns. The efficiencies come together to achieve a ROCE for Apex of 90%, as modelled by Hardman & Co, compared to 24% for a 'traditional' metropolitan residential developer.

- **The table below** is illustrative of a typical London two-bed apartment prospective development. It compares the Hardman-modelled returns for an Apex-developed apartment with one developed under a 'traditional' model.

Illustration of Apex's ROCE compared to traditional developer

(£000)	Apex model	'Traditional housebuilder'
Peak cumulative cash commitment	330	380
Months from initiation to final completion	11	36
Average cash commitment over total period	195	255
Illustrative apartment sale price	610	610
Developer pretax operating profit margin	26%	28%
ROCE	90%	24%

Source: Hardman & Co Research

Analyst

Mike Foster 020 7148 0545
mf@hardmanandco.com

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Executive summary

Creating real estate value by a new method…

In a nutshell – Apex: the new disruptive residential developer

Apex helps rooftop owners turn a liability needing ongoing maintenance into an asset. Apex takes the asset through planning and all build stages to sales completion, providing owners with a turnkey service. Rooftop owners receive a sum, fixed at the outset, at the stage of receipt of planning permission and again at final completion. The Apex model involves paying a modest amount for an option to develop and deliver through an outsourced supply chain. The most significant element of this is factory-built modular construction. Across the board, this approach brings major efficiencies. The development timetable takes some eleven months, but six months of this comprises the time assumed from placing the factory order through to sales completion.

…. a highly efficient model, maximising return on capital employed and minimising risk to all participants

Efficiency enhancements are game changers

The efficiency benefits of the Apex model are a game changer. They reduce both capital employed and exposure to potential market fluctuations. For Apex, the financial model facilitates capital turn circa 340% p.a. (revenue relative to average capital employed). For a typical private apartment (£610,000), we anticipate operating profit to Apex of £160,000, and capital employed to total under £180,000 per year.

ROCE tops 90% in our model

The Apex ungeared annual ROCE reaches some 90%+ in our model – after overheads, pre-tax. As it does not own the rooftop, Apex has working capital but not 'investment' capital employed, minimising risks to returns.

No risk, effort and minimal wait for the rooftop owner….

The Apex model takes the risk, effort and wait out of the equation for the rooftop owner. The financial and operating benefits deriving from the efficiencies of Apex's positively disruptive method of delivery is encouraging. From a standing start in 2016, it holds an option pipeline of circa £50m gross development value (GDV).

…no surprise that a major project pipeline has been built

This strong Apex pipeline will begin to be rolled out this year. In-depth assessment commissioned by Apex shows a potential market in London alone of up to £54bn GDV, excluding commercial properties. This provides scope for Apex both to deliver significant volume and to be selective about sites to develop. Apex has a high profile in the market, assisted by recent media attention linking its name extensively to Tesco's strategy to build new homes on top of its stores. Its strong profile is complemented by its already established contact base pipeline of 1,800 owners. Planners and local authorities are supportive of this method of new residential delivery, yet today only some 400 apartments p.a. are developed on rooftops - so the market is ripe for disruption. Apex attracts the rooftop owner as it creates financial returns which are fixed and certain at the site-level.

Returns are quantified before committing to development via efficient capital employment model

A better solution – an efficient solution

Apex's main advantage is its efficiency gain. This operates at four stages.

Modular factory-build brings efficient project delivery

1) It creates efficient project delivery. This includes efficient procurement (principally the benefits of factory-built apartments), reduced need for site trades, better safety aspects and a fully outsourced apartment sales cost.

The model requires a particularly modest level of fixed costs at Apex

2) Its fixed cost is minimised, not least through outsourcing sales to estate agents. This compares to significant 'on-the-ground' sales costs for housebuilders – costs which increase per home built as markets slow. Apex in-house costs are restricted to the mission critical, i.e., delivery overview and negotiation and interfaces with freeholders.

Apex's model delivers even if it only develops 0.1% of total potential sites annually

3) The Apex model is efficient in the event of the inevitable market-induced 'bumps in the road'. It plans to deliver circa 0.1% of developable sites each year. As the market leader, the ability to 'pick and choose' the best development opportunities, gives it strength in procurement costings. Apex enters into a three-year option which offers significant market timing flexibility, which is complemented by the outsourcing model.

Efficient use of capital should take ROE at site level to 100%+

4) The fourth efficiency is in the use of capital. We calculate that, even if Apex exercises its right to delay the project somewhat, the return on equity at site level is still likely to exceed 100% p.a., pre-tax.

Low risk route to first mover advantage – a disruptive model

Strong cash generation and strong control of the process give the opportunity to build an 'airbank'

As we point out above, Apex's model can be delivered without a landbank. It also lends itself to Apex potentially accruing a landbank (i.e. a rooftop 'airbank') of optioned sites, should it choose so to do. Sector disruptors bring significant efficiencies and volume potential and are, thus able to monetise their brand and IP potential in a variety of ways. The option route ties up minimal capital, whilst taking a site through planning adds significant value at that early stage.

News flow, crucial for a first-mover disruptor, is strong. It is influencing policy among opinion leaders and Authorities such as the Department for Communities and Local Government, the Mayor and the GLA, over half of London's local authorities and the London Assembly. In November 2016, Apex's discussions with Tesco were well-reported in the national press.

Risk minimisation is key

The Apex model minimises risks, because factory build, pricing and timing are 'nailed down'. Exit from a free labour market within the EU may or may not take place, but this will have no material impact on Apex, whereas it could have significant impact on the traditional construction market. The sales costs carry no risk, because this is also outsourced.

Sales are delivered through agents so costs are fixed

Options last three years so there is 1) early value creation and 2) a wide time-frame during which Apex may initiate development

The three-year time-frame length for development secured by the initial option is important. That significant value created at the time of securing planning permission is very important. After spending some £20-30,000 for the option plus planning costs (all outsourced) a significant planning value uplift is created. With the high brand visibility bringing an excellent choice of sites, and early generation of value uplift, Apex is in a strong position.

This gives it procurement power with suppliers of rooftop development opportunities. We have highlighted how Apex's model delivers even if it only develops 0.1% of total potential sites annually.

Apex has procurement power, enabled through its ability to be deeply selective of sites, its factory-build and outsource-focused supply

We therefore consider Apex to have a highly profitable and cash generative financial model which has rapidly gained traction with planners and the local authorities, individual freeholders and large commercial counterparts such as Tesco and others. The first major step to building an 'airbank' has been achieved and the model has been proven. We view Apex as positively disruptive, based on an intrinsically low-risk model.

Apex Airspace: sector disruptor

Apex partners with the owners to create profits for them on their assets

In some ways, anyone could do what Apex has done – given significant time, expertise and imagination. Apex's profile, underscored by its relationships with the likes of Tesco and London Boroughs, strengthens its first mover advantage in the market. This combines with a site pipeline, unique database of sites, a burgeoning contacts' network and the experience of solving the particular planning and construction challenges of roof top building. It partners with owners to generate new value for them on their assets.

A first mover advantage – streamlining and facilitating expansion of an existing physical solution

As an example of the birth of a similarly 'disruptive' residential developer, much of Berkeley Group's origins in the 1970s lay in land assembly in the suburbs of London and the south east of England. They approached home owners and purchased back gardens, assembling small sites to develop new houses. Again, this was something others could have done and, in a small way, others did do. Just like Berkeley, Apex is taking a small and rather obscure corner of the residential development market and running with it. Today Berkeley Group's market capitalisation is £3.8bn.

Turnkey solution to the rooftop owner

Apex's solution is better for the freeholder/owner of the rooftop compared to the one he might achieve himself. The freeholder receives a fixed amount, calculated as a proportion of the eventual anticipated profit: receiving half of the money at planning permission, half at the end of the development. No input at all is required from the freeholder, operationally or in any dealings with planners, utilities, leaseholders or any other stakeholder. This is a 'turnkey' solution. The leaseholders will typically benefit from enhancement to the common parts (lift, hallway etc).

Major public sector funding windfall potential

The one third of homes deliverable from atop public sector rooftops, creates significant opportunity for new Affordable Housing, whilst also reducing the cost of roof maintenance for many decades.

Apex's focus is London. Land in London remains strongly in demand and the lack of ready supply is proving prohibitive to many types of development. Herein lies one of the strengths of Apex's model, which does not require the purchase of land.

http://sites.v3.savills-vx.com/123/_images/Research/land-index-chart-to-q3-2015.jpg

Needs no landbank…….

The Apex model does not have to commit to major land expenditure 'up front'.

- The rooftop on which it builds is owned by its third-party client. The model is efficient in terms of Apex's use of capital in that Apex only purchases an Option 'up front', leading to minimal outlay to secure a legal interest.

….. indications planners welcome the solution

The Apex model benefits from the Government's evolving planning regime. The company has had:

- positive discussions with the GLA Planning Team, who are very supportive of greater planning freedoms for rooftop development. The support for rooftop development is already encouraged within the London Plan Supplementary Planning Guidance – March 2016. Planning Policy adoption is encouraged that makes a presumption in favour of granting of planning consent for such usage.

But there are other, more practical issues it side-steps - issues such as connecting gas, electricity and water, which are less onerous for rooftop development.

- Apex can in most cases plug into the existing services serving the building, without the need for elaborate upgrades.

Apex commences the development only after pre-selling, so gross profits and timing of cash receipts are known

Housebuilders try to forward sell i.e. secure a buyer for their units before the units are built. Even if they do, the housebuilders' costs of land (which are substantial) will have been fixed when the land was bought and that transaction is not tied to the pre-sale. Market-timing risk is endemic in a very cyclical market. In contrast:

- Apex's costs and sales revenues are better attuned. It only acquires apartments (from the factory) when sales are strong.
- Apex shares the significant value added to a property with the land owner. The site-based cost is typically up to 30% below London prices for completed residential property.

Apex's four-fold efficiency gain

Apex's 'positive disruption' is founded four-square on a series of efficiency gains

Apex has researched the gap in the market for delivering residential accommodation in a different way. In this section of the report we assess the four key ways in which the Apex model's 'positive disruption' stems from the major efficiency gains built in to the model at all stages of planning, procurement, delivery and capital tie-up. Without these intrinsic efficiencies, we doubt the model would have achieved its objective – to open up a market which up to now has been entirely non-functional. Apex enables a much more efficient workflow and much better deployment of capital.

Apex commits to a specific fixed payment the owner will receive once planning permission is secured. Apex uses outsourced procurement and delivery partners. Whilst Apex of course holds its in-house team to overview and take responsibility for project and programme development, systems and processes are streamlined to align with their innovative delivery chain.

The outsourcing model enables the following:

Outsourcing enables efficient:

1) project delivery; 2) fixed costs; 3) exposure to market fluctuation; 4) working capital

- it makes the project delivery efficient in terms of labour (predominantly taken to the factory-supply) and weather issues – which means cost and time are nailed down;
- it minimises Apex's fixed costs and makes the proposition operationally scalable (for example it does not need a sales suite on site as a housebuilder would);
- it minimises market-timing risk (the build-cycle is shortened);
- it minimises working capital requirements and thus makes the model strongly cash generative.

Efficient delivery includes a simple fixed sum offer to rooftop owners – struck as soon as planning permission gained

We shall assess each of these four 'positively disruptive' attributes in turn.

1) Efficient project delivery

Procurement and delivery streamlined

- Simple offer proposition to rooftop owners – an agreed fixed sum paid in two tranches;
- procurement streamlined – 98% of the apartment is factory built, meaning only one major subcontractor with all design warranties;

- delivery stream – a lesser need for trades;
- health and safety compliance – risks of working at height issues are minimised;

Sales process costs are known: not affected by speed of sales

- apartment sales process – no costly in-house sales team.

The first step in project delivery is securing the orders from the rooftop owners. Apex is the only business to conduct a full appraisal of each potential rooftop, prior to making an offer to the owner. Working with its extended professional team, this approach fully de-risks the project for freeholder and enables them to make an offer with confidence to the owner.

Factory-building is clearly the way of the future: predictable time and cost

Procurement: The most notable benefit to all parties is that the units are factory-built. The cost to Apex of the building, craned to site, is fixed from the start. Lead times and costs are predictable. Any cost variances will be very modest.

Delivery: Pre-fabrication means construction of homes is not weather dependent nor does it rely on acquiring and deploying a labour force which requires a range of trades. Indeed, we consider labour to be as great a constriction on housing supply in London as land.. We note the significant expansion underway in the UK in factory modular-built construction. As Apex grows so will its buying power and, thus, its costs should reduce further over time.

Predictability

Sales: Costs are known precisely before Apex commits, enabling clear projections of margins.

2) Apex's fixed cost minimisation

Project-based costs are outsourced

The structure of the project delivery – relying on outsourced professional services, factory-build and sales – all act in the same direction of an efficient, lean operation. In the next section, we highlight how this efficiency maximises opportunities. This leaves only the mission-critical high-value factions to be delivered in-house. Everything which can be delivered by professional third-parties is delivered in that manner. This takes the risk of project-delays away from Apex.

This leave the mission-critical 'top level' tasks in-house

- Monitoring and influencing developments in planning – e.g. Apex's direct involvement with the Department for Communities and Local Government, the Mayor's Office and other authorities helps influence the planning process.

To maintain first mover advantage, Apex keeps a high focus on brand promotion and on being at the forefront of market developments

- Developing new supply chain partnerships – the growth in factory-build supply chain is significant, and Apex are keen to harness the cost benefits that will flow from increased scale and supply competition.
- Assessing the various attractions of different types of rooftop owners (for example the initial 2016 development was with an individual freeholder and more recently Apex has entered into discussions with Tesco).

The in-house team is focused on creating and honing a streamlined value chain. The team closely monitors and manages the extended out-sourced professionals (with their own Professional Indemnity insurance) through all aspects of the project delivery chain, receiving reports at all project key stages, linked with regular visits to both factory and site.

3) Apex's market risk minimisation

Keeping timing tight reduces the risk of market fluctuations impacting

The fluctuations of residential sales prices will of course affect Apex. Its model is based on agreed sharing of the new value created between the rooftop owner and Apex; this is agreed before it applies for planning. The economic driver is therefore the negotiation between rooftop owner and Apex on the split of the anticipated profit.

We anticipate Apex volumes will rise rapidly to 200 apartments per annum, and continue to grow thereafter, as 200 represents barely 0.1% of the total identified potential for rooftop apartments. Apex holds significant negotiating power with site owners. Apex should maintain procurement power- important in weak markets or 'frothy' markets.

There is market flexibility

The three-year length of the option is great risk-mitigation….

The model is based on the rooftop owner selling a three-year option to Apex. Planning times will vary by local authority but are projected to be four months on average. There is therefore an approximate 30-month flex in the model before Apex can choose to begin development.

Minimising downside risk

…its early value creation cushions both Apex and the rooftop owner in a downturn

- The value created on successful planning, c.27% gross profits on revenue on average (pre- interest and tax), means the option would retain positive value even were residential prices to fall by more than 20%.

Modest fixed costs minimise the negative financial implications of any volume reduction / slow-down during a recession

- Time has a minimal cost in terms of overheads. It is noteworthy that central in-house costs are kept low, as all key services are out-sourced to Apex's retained team of professionals.
- Fixed costs are low. The fixed costs are with the factory which builds the rooftop home and with the consultants Apex uses at various stages of delivery.
- Volumes would still be anticipated to hold up even in a downturn. We have highlighted the large number of potential sites to choose from those anticipated to be delivered in any given year.

4) Apex minimises the need for working capital

Early value creation maximises returns, fundability and minimises working capital

The significant value uplift this brings can be seen as being released in two phases:

- at the time of planning permission receipt (after some four months) and
- at the point of the completed sale of the finished apartment.

The practical implication of early value creation is useable collateral

The first value creation is through receipt of planning permission. To achieve this requires some cost – the cost of the option and the payment to planning consultants. It requires no working capital. Total costs are projected at between £20,000 to £30,000 to achieve a planning consent and secure an option. The EBITDA potential created for Apex through planning success will be a circa 4 to 10 fold multiple of those costs, we estimate (with the higher multiple uplift tending to be seen at the more expensive properties). Apex at this point also secure a legal interest in the roof, thus creating collateral for the project.

Apex model only sees c.75% of total working capital ever deployed

Quantifying the value of the option enables Apex to consider funding future development through an element of debt finance. 'Future development', of course, means Apex paying 50% of the agreed total payment to the rooftop owner once planning permission is secured. Importantly, this coincides with the 'value creation' point. The second and last value creation point is the sale of the apartment. The balance payment is made to the rooftop owner at that stage, so a major cost (24% of total cost of sales, we model) passes through at the very end of the process.

Efficiency (speed) of build process maximises returns, minimises working capital

Total site development takes an anticipated eleven months. The time from build to final sales completion is anticipated at seven months.

- At planning stage (typically four months in) circa 15% of total project costs are paid out to the owner – the half payment of their eventual remittance for the value of their roof.
- At time of commitment to build (typically five months in) circa 30-35% of total project costs are paid out to the factory for the building.
- 15-20% of costs are spread through the whole time-process of the project – to third party consultants and to the smaller in-house costs.
- 15% of costs are only payable at the time of sales completion (typically eleven months in), which is when Apex receives the cash-backed profit from sale completion of the apartment.

Apex is principally 'out of funds' for 75% of its costs for the six-month period of build and sales.

Apex does not own development land: it maximises ROCE, minimises capital employed

In a typical example, c 50% project revenue has to be paid out over a circa six-month period…

…. and gross profit totals circa 50% of the amount which has been paid out….

…. that's a c.50% return on cash each project – turned several times per annum

What makes a major contribution to the efficiency of the model is that Apex does not own the land on which the profit is generated. However, Apex's option to develop does represent a legal interest thereby enabling the choice of adding an element of secured debt funding. Nonetheless, operationally and financially it totally reverses the 'traditional' housebuilder model.

A typical worked example (assuming build commences immediately upon receipt of planning permission) would be – for a typical £610,000 apartment:

- £320,000 cash out for the build period from start to finish: some six months.
- £610,000 Apartment value (based on average size and London selling prices).
- £167,000 Gross profit projected.
- +/- 100% ROCE is achieved based on the above calculation – prior to potential enhancement through financial gearing.

We have alluded to the early value creation point (at time of planning being secured) and the possibility this throws up for Apex to introduce an element of financial gearing at that stage. This, clearly, would further enhance ROE. Note, the figures are stated prior to 'central' operating costs. In the model these are relatively modest.

Options for growth

Building an 'airbank' is inexpensive and is value generating

The cost of options is modest. Whilst there is some cost in taking each potential rooftop development through the process to successful planning permission, the option itself (with the rooftop owner) stands at single figure £'000s.

Highly cash generative from year two

The model is highly cash generative from year two onwards. Apex, therefore, is likely to find itself in a position to raise its visibility on future growth by using a part of that net cash generation to acquire options. We do not quantify the possible appetite for this option 'airbank' but would not be at all surprised if we were to see Apex adding value in this way. Immediately an option achieves planning success, a significant value is created.

The market opportunity

Owners are reticent and unfamiliar with how to execute such developments

Rooftop development - an overlooked solution

Apex's elegant solution is well placed to break the log-jam

Apex is the only scale-operator that guarantees a profit to roof owners, whilst offering a turnkey solution. Its model is positively disruptive, successfully addressing the log-jam which exists for rooftop owners to use their assets to make a profit through developing new apartments. The solution uses capital much more efficiently than existing development models, streamlines the time and delivery quality of the apartments and is eminently scalable.

London market volumes may well fall unless a 'new way' can be found

- Completion volumes for new apartments in London may well reduce unless incremental, innovative sources of supply are found.
- There is a plentiful supply of developable land London-wide, we contend - on London rooftops.

Apex will deliver this 'new way', with its superior model unlocking rooftop development

- Currently 400 apartments per annum are delivered this way: a figure which compares to 180,000 conservatively identified in an independent report published by HTA Design LLP in 2016: 'London's Rooftops: Potential to deliver housing.'

Apex removes all the owners' barriers to securing a guaranteed profit

- Apex is the only potential scale-operator which removes rooftop owners' barriers to securing a guaranteed profit, paid to them when Apex achieves a successful planning outcome.
- We also conclude that the planning policy supports and encourages wider adoption of rooftop development, and the planners are set to publish findings on 'how' to enhance planning flexibilities to deliver more this way – Apex is at the forefront of input into discussing with the GLA how this may best operate in practice.

Summary: innovation has been tried and now a new form of innovation is needed

There is a large potential developable market. Planners are supportive. A detailed survey of sites has been made. Together, this indicates significant scope for volume rises in rooftop development. Indeed, total completions in London are rising but 'traditional' methods' costs keep rising. The public sector is being forced to be more innovative. The private sector has embraced innovation, through tall towers, although the tall towers answer no longer works well. New innovation, i.e. rooftop, can be a major part of the solution, whose time has come.

Market scope

HTA Report in 2016 illustrated this 'best kept secret' of rooftop development … a potential huge market

An independent research report into the potential, published in August 2016 by HTA, identified the potential to create 180,000 new homes on London's rooftops through very modest development of just one new storey. The London borough wide research translates into a projected Gross Development Value (GDV) of minimum £54bn market – this excludes development atop existing commercial retail stores.

Planning environment in favour of rooftop development

London is crowded, but there is scope to add density. London's population is 1% less than New York but its area (1,572 km^2) is twice as large. Its density of 5,490 people per km^2 compares to 10,830 per km^2 in New York (and 3,180 in Los Angeles); Paris stands at 21,500 (source INSEE). Understandably, many commentators think greater density is a real option. There is strong evidence the planning regime is supportive.

'Live' update – (consultation ended April and awaiting outcome) as to HOW best to achieve unlocking the planning environment

In July 2015, the Treasury signalled its intention to end the need to obtain planning permission for upwards extensions in London

The DCLG and the Greater London Authority launched a joint consultation on streamlining the planning process for more modest upward development in February 2016 (i.e. the construction of additional storeys on top of existing buildings). Their paper seeks "views on an innovative approach to supporting housing supply by providing greater freedom to 'build up' in London, reducing the pressure to 'build out'". This consultation was specifically looking at the 'how' of delivering this outcome. It is anticipated that part of the new emphasis will be towards height parity with neighbours, and another is a broader London-wide policy.

Apex the only private organisation invited to DCLG working group

In April 2016, Apex met with the DCLG to promote the concept within the national planning consultation on 'upward extensions'. We understand Apex was the only private organisation invited to the working group on these proposals.

Streamlining planning to 'build upwards' – is going with the grain

The DCLG and the Greater London Authority's joint consultation on streamlining planning is showing the way politics is going. Three proposals are considered for stimulating the delivery of new homes through upward extensions: a permitted development right, local development orders and new London Plan policies. The first, the proposed permitted development right (where planning permission is not required) is likely to be limited to building up to the roofline of adjoining buildings.

The consultation report can be found here:

https://www.gov.uk/government/consultations/upward-extensions-in-london

The government's White Paper on Housing, due to be published in early 2017, is anticipated to echo the positive support for building upwards, with new planning freedoms to be announced to support.

Apex is recognised as being at the forefront of rooftop development in the UK and its opinion is sought by influential bodies. Apex is influencing the strategic planning framework.

Homes for Londoners: strategic objectives all tie in to the Apex model

The recently formed 'Homes for Londoners' Board, is an initiative by the Mayor, Sadiq Kahn, to generate more new homes for the capital. Apex's ambitions are strategically aligned with the aims of the Homes for Londoners objectives. It 'ticks every box':

- using all relevant land and planning powers to support public and private development, unlocking development sites and bringing forward surplus public land;
- driving forward development in key areas across the capital and making sure opportunities for more affordable homes aren't missed;
- exploring and promoting innovative construction methods, and working with the wider construction sector to develop the skilled workforce required to build thousands of new homes for Londoners.

Everything is positive

As part of ongoing discussions with the GLA, Apex was asked by the senior officer, responsible for delivery of the London Plan targets, to submit its views on what additional planning flexibilities might be needed to enhance delivery. We understand Apex's views were positively received.

Tesco connection

Apex also held discussions with the London business lobby 'London First' which is very influential in lobbying government and the GLA about the capital's infrastructure needs. This is chaired by the Tesco Chairman, John Allan. A key concern for them is new housing supply. They appear keen, we understand, to promote the Apex approach, not just with HMG, but also business members.

Survey of potential rooftop sites

First mover in understanding Authorities' approach AND in optimising the business model response

Not only is Apex a 'first mover' with influence in the planning framework, it has 'first mover' status in assessing the correct model with which to approach the rooftop owners. Apex commissioned a report into rooftop development potential in London, with specific reference to Camden, from HTA Design, which was published in August 2016. The Report was put together with key input and the coordination of Benjamin Derbyshire, who is President Elect, RIBA.

HTA Report – and president elect of RIBA

The HTA Research project was headed by Riëtte Oosthuizen, who was formerly at Knight Frank. This HTA team won the Royal Town Planning Institute's Award for Small Planning Consultancy of the Year 2016. The report's focus on the London Borough of Camden, assesses a locality where the Apex team has detailed knowledge and experience. In the borough, 475 potential rooftop opportunities were identified primarily on existing residential buildings, which could create 2,485 new homes if all were developed. Clearly only a portion would be expected to approach consideration.

Further, as we expand in this document, Apex seeks other forms of rooftop developments, for example on larger multi-site commercial estates, namely Tesco and other national retailers. These lie outside the scope of the HTA Report. We consider it of note that approximately one third are mid-rise public sector sites.

The 2,485 apartments identified in Camden stem from just adding a single storey. Other key pointers:

- "A typical housing estate [i.e. low rise flat roofed blocks] could increase the number of homes by approximately 30% without impacting on key planning issues."

Potential London market size is 180,000 + homes….

- The study extrapolated from the Camden detailed study across other inner London boroughs could produce 38,394 homes, whilst the total for Greater London, as a whole, is calculated at 179,126. A third of this figure is atop public and regulated sector properties, providing a significant new source of affordable homes for London.

London rooftop development could grow five-fold or more

…. Currently with 400 p.a. being developed

Some 400 units are currently being delivered this way per annum in London. We conclude that 10,000 units p.a. could be facilitated by rooftop development alone, matching the rise in household numbers. We understand Apex anticipates delivering circa 120 apartments in its first full year of roll-out, followed by a rise to a 200 pa run-rate during the fourth year. This would represent a circa 10% market share if only 10% of the 180,000 potential units identified in the HTA report were developed in an initial ten year period.

Importantly, a high proportion of rooftop development would come from central areas where population pressure is highest.

The public sector is an important element

A goodly proportion is anticipated to derive from local authority or Registered Provider (RP) rooftops. It would thus release significant sums and contribute to solving affordable housing shortages. Apex is one of the few market participants which can purchase and fully finance these asset-backed development opportunities, taking all the procurement and delivery risk in a 'one-stop shop'.

The public sector has been put under pressure to innovate

This public sector element is a crucial one for London's residential needs and is an area where the Apex model can be very attractive. In 2015 legislation was put in place to cut affordable rents by 1% p.a. for four years from 2016. This results in a significant negative impact on RPs' ability to develop new assets. Apex calculates that there is a latent £6bn gain to be secured from affordable housing rooftop development in London – a figure to make a positive impact both on-site and off-site in regeneration and volume supply. We cover this further on pages 19 and 20.

Readers of this report might query the focus on London. There is clear scope for the type of solutions we analyse in this report to be applied to other metropolitan cities in the UK. Nonetheless, all real estate is local, with local knowledge and contacts at a premium.

London: traditional developers' rising costs

- London unit completions are running at c20,000pa……
- …. but London household formation is trending at c40,000pa

London has seen residential development rise. Completions between 1981 and 2001 were in the 12,000 to 17,000 range p.a. This century, the figure has risen to 17 – 23,000 p.a. This rise has been in the face of the numerous impediments facing traditional developers. Land prices are rising strongly and land investment is required 'up front' tying up large amounts of capital from start to finish of a development project. There is also a large accumulation of what might be called 'local infrastructure' issues. We point to these more prosaic issues which impact development – gas and electricity and water, for example. These 'inconveniences' are arguably worse in crowded localities, such as London, and they have a major impact.

Costs and inconveniences for 'traditional' supply keep rising

- Cost of land in London with planning continues to rise significantly.
- Materials and labour costs are concerns and are likely to rise for conventional developers.
- Installing new utilities is increasingly onerous in the crowded metropolitan environment.

Rob Perrins, CEO of Berkeley Group, was interviewed last year (14th November) by the BBC http://www.bbc.co.uk/news/business-37980041 and raised the utilities as a material inconvenience.

Tall towers innovation has worked but this route is now less attractive

Recent growth has been innovation-led: 70 London tall towers. But this is no longer a robust answer to housing need….

Residential development has risen in London, since the 1981–2001 period. Innovative solutions have been the key. Land use pressures have led to significant emphasis on high-intensity residential use. A 2015 report revealed that 263 buildings over 20 storeys tall were currently being planned for London of which 70 are currently under construction.

….planners less keen….

Peter Rees, the former chief planner for the Greater London Authority, views building skyscrapers as a 'last resort'> He advocates that towers be restricted to clusters such as Canary Wharf, or the very centre. 'Office towers can be built in tight, sustainable, clusters, minimising their impact while maximising their economic advantage…… the same does not hold true for housing, where the highest densities in London are to be found in Chelsea, which is gloriously free of towers.'

English Heritage warned in 2015 that the increasingly crowded situation 'could threaten the value of London as a place to come and visit if it leads to London losing its traditional character.'

….sales rates show a slowdown

The highly publicised slower-than-anticipated sales rates of the tall towers in 2016 around Nine Elms (and Earl's Court) add a different kind of constraint to the residential tall-tower business model. They tie up a very significant amount of capital for a long time and investors understandably show concern when sales rates slow.

…. innovation needs a 're-boot'

In summary, innovation in residential development has centred around tall towers. However, the scope for further tower development is now significantly reduced, we consider. We also consider innovation remains a key to unlocking the housing supply challenge and rooftop development has a positive contribution to make.

Rooftop development is daunting (in its detail) and so a professional organisation focused entirely on enabling such development and is exceptionally efficient is particularly well placed at this precise juncture. Apex is the only business of scale in this emerging market segment.

Apex's better, deliverable solution

This segment explains why Apex's solution is more efficient than rooftop owners doing it themselves. It also outlines the problems housebuilders face developing in London and how alternatives, such as upward development, play a crucial role. It illustrates the investor benefits of superior returns with lower risk. Indeed, the decision to develop a rooftop is only committed to when the cost and sales revenue are 100% firm and fixed. We touch on the value this creates for residents too.

Better for asset owners, residents, investors

- The Apex solution is preferable to an individual potential client attempting to develop on their own initiative.

Apex: better for private and public rooftop owners

- The solution is less intrusive than other development methodologies, for residents and neighbours.
- Profits generated add new apartments which can be used to expand the pool of affordable homes.

Model has major +ve financial superiority

- The model is far less capital intensive than that of a conventional housebuilder. Whilst a number of the housebuilders state they are achieving public ROCE targets which exceed 20% pa, we would anticipate the lower capital employed and high profit margins will result in higher ROCE for Apex than the mainstream housebuilders.

Better for all client types

Apex has a wide range of sites and a wide range of types of counterparties to select from, when pursuing its model.

The counterparties – Apex's potential clients

Apex has a wide range of asset owners to approach to help build its development pipeline

We consider the breadth of Apex's clients to be a positive support to its investment case. Apex has a wide variety of only partially correlated counterparts to bring in the roofs to develop. The financial and market characteristics of each vary significantly. This is an excellent position, providing development capacity which is resilient to changing market conditions. Its model addresses:

Who are these asset owners?

- individual property freeholders;
- serial-investor freeholders;
- local authorities;
- Registered Providers (housing associations);
- commercial operators who own freehold (e.g. Tesco) and
- ground rent investment institutions

Rooftop development could satisfy a huge social need

Both the assets themselves and the factory-delivery of the development create social value

Rooftop owners generally aren't developers but their assets could contribute to helping solve London's, and other cities', housing shortfall. In addition, the expansion of off-site manufacturing of homes has a benefit in job creation and reduces pressure on the rates and availability for certain trades used in on-site construction.

Apex brings strong, and above-all pre-quantified, certainty of financial returns to the freeholder, 'society' and Apex. On the page above we pointed to the likely significant potential expansion in affordable homes provision in London.

Further, we point to the likely significant expansion in the 'Affordable rent' flats

We contend that Apex has a first mover advantage in 'professionalising' a standardised process with the financial returns to the freeholder and to Apex strictly quantified by that robust process.

Fulfilment of three categories of need

Beneficiary	Requirement
Freeholder	Certainty of profit quantum prior to committing to development
Societal	Creation of new affordable rent housing on the block and elsewhere
Apex	Post overheads, returns per apartment are quantifiable

Source: Hardman & Co

The conventional solution to the market need is getting increasingly difficult

What is needed in London for a housebuilder or an apartment-developer, is land, planning, time, marketing and money.

Conventional housebuilders see London land prices rising far more than UK-wide

Land is expensive and fully priced in London. Even if the identified site is ear-marked for residential, there is competition from other bidders, such as providers of student accommodation. Sites of a certain minimum size will have social housing requirements (UK's Section 106 and other London Mayoral requirements); this can be up to 50% of units and is costly to the developer. Planners will be mindful of the local area impact and various density and other policies.

The developer buys the site and commits usually well over 50% of GDV (gross development value) to that land purchase. This is for private sector driven but also 'affordable' types of sites. Selling takes place during the build process and is subject to the fluctuations in the market over a period of many months. The marketing costs and the time it takes exposes the developer to risk that the market could fall (or indeed the windfall that it could rise). Returns on that very significant outlay on land, and the working capital, are variable and unpredictable, influenced by the market's movement.

The solution, rooftop development, ticks lots of boxes

We summarise the five key points in the table below, comparing 'traditional' with rooftop.

Significant capital employed 'traditionally'

Summary of returns

Problem for 'traditional' or owner-developer	What Apex would provide
1) Major capital required for traditional housebuilder model on London's expensive land	The rooftop solution's 'land' is a separate asset and its cost doesn't impact the same
2) S106 'pay-away' is expensive. It's designed to create planning gain for societal benefit	Rooftop in private-owned schemes typically is just under S106 threshold
3) Building in London is disruptive with lorry traffic and the digging up of utilities	Rooftop is one crane drop. All utilities M&E work is 100% within curtilage
4) Traditional property development is subject to major hassles and is significantly exposed to economic and financial cycles	Rooftop owners are offered a 'hassle free' solution where the £ return is guaranteed
5) Much of the market addressed is public sector – a sector traditionally subject to major capital constraints	Rooftop development turns a liability into an asset which funds new homes

Source: Hardman & Co

Solving public sector problems

Public sector: Apex-generated multiplier to fund regeneration

Rooftop development gives the public sector a combination of more stock, more capital and new ground rent for minimal cost. As they already own the land, the cost of the build plus the profit share to Apex is the sole cost. The RPs will create value and, as not-for-dividend organisations, this profit will be utilised to promote their aims and objectives. This is likely to include the funding of further development of 'policy compliant' apartments (i.e. apartments available to rent at subsidised levels).

The public sector – Local authorities and Housing associations – must cut social housing rents by 1% each year for the four years from April 2016 – in a move the government says will help reduce the country's housing benefit bill. This is a projected net reduction in real (inflation adjusted) terms of 14-18% over the four years, particularly hard as price inflation starts to rise. Apex would enable a ready expansion of the rent roll through creating new homes at modest cost. Indeed, the sector regulator encourages adding to the asset roll. There may be several ways such owners could achieve this. The public sector will have to become significantly more innovative – and urgently so. The Apex supply chain delivers significant cost savings vs traditional build. We understand this is likely to be of the order of 20% below prevailing costs. Apex unlocks a large multiplier of funding for new stock. Three major considerations should be understood:

- provision of new apartments on the rooftop;
- generation of a financial gain which can facilitate development on other sites;
- delivery of simple estate regeneration options which include refurbishment or new in-fill on other buildings owned by the public sector.

We would emphasise that the model is entirely about Apex delivering modular factory-built apartments on the rooftop. Nonetheless, these three factors above combine to provide a huge prize. It is estimated by Apex that up to £6bn new funding could be generated for new affordable housing provision through use of airspace on existing local authority and housing association assets.

Private freeholder types

Solving individual, smaller, freeholder's problems

Individual freeholders have a quandary. The freeholder will most likely not be a professional within the property, finance or surveying industries. He/she will no doubt, however, be aware in general of the potentially profitable route of facilitating development on their rooftop. Apex not only takes all the procurement and delivery concerns away from the rooftop owner, and generate real value through scale procurement. Only the largest freeholder investors would have any realistic ability to engage with modular build. Indeed, most individual freehold owners – even the larger ones – probably hold the freeholds to enjoy one of their key attributes – the long term returns and a relatively 'hands-off' management requirement. The leaseholders occupying the flats have minimal interaction with freeholders, so long as the ground rent is paid on time.

Pre-Apex: THAT is why rooftops is currently such a miniscule market

Prior to applying the Apex model, all these issues sum to meaningful disincentives to commitment, resulting in only 400 homes via rooftop developments a year in London.

Tesco – discussions on using Apex are at detailed stage

Tesco: game changer in terms of credibility and visibility

The news of Tesco's decision in principle to develop over its stores and over its car parks in certain locations was made public in November 2016. Apex is in detailed discussions on some of those sites. The case as seen by Tesco is compelling. It has a stated objective to generate large amounts of cash from its physical estate, to pay down its debt, and sees the potential to unlock some £400m from better use of its airspace. Tesco is not in the job of being a property developer and building on top of existing trading sites is not straight forward. Large housebuilders might be interested in larger developments but an individual store would be unlikely to be large enough to be high on the list for housebuilders, given the complexities.

Tesco does not want the sales risk. Apex's model would take this from Tesco.

Aldi too

We understand Apex also is in discussion with Aldi, and one other national retailer. There is every reason to believe a range of commercial owner-occupiers of portfolios of physically extensive sites in urban areas might want to build mid-rise over their estate. Tesco will likely turn out to be just one of those.

The Tesco sites could and may involve a range of conventional developers for the car parks. Apex's involvement offers real opportunities for it to form new partnerships with these developers to both scale the business and position its brand.

Tesco is thus much more important that the potential initial revenue. We see Tesco as an attractive potential client, bringing an interesting pipeline. More importantly, it is a 'name' which brings significant credibility to Apex. The relationship would involve Tesco assessing and being comfortable with Apex's ability to fund working capital and in due course share the value creation, in cash terms, with Tesco.

Better for leaseholders of existing flat blocks and for London

Leaseholder gets a tangible and financial benefit

The leaseholders in a block being built on are likely to benefit from a mix of some or all of the following:

- future maintenance costs of the roof which will remove a large item of expenditure from the service charge;
- improved 'kerb appeal' such as re-cladding of the building;
- improved common parts such as lift or hallway;
- a possible cash payment.

Brand development

Positive newsflow

What recent events have supported the view that Apex is building a strong pipeline?

HTA Design research paper for Apex entitled "London's Rooftops: potential to deliver housing

The document produced by HTA Design in 2016, for Apex, entitled "London's Rooftops: potential to deliver housing" supports the deliverable potential with specific quantified data on market size. The research has been widely circulated with key policy influencers in London and has been positively received.

DCLG, GLA etc. are pursuing high-level consultations

- Department for Communities and Local Government and the Greater London Authority launched a joint consultation on streamlining the planning process for more modest upward development. Their paper seeks "views on an innovative approach to 'build up' in London, reducing the pressure to 'build out'". An outcome is anticipated shortly. We stress once more that our understanding if that the consultation concerns 'how' not 'if'.

Sadiq Khan's 'Homes for Londoners' is pushing ahead to public sector elements of delivery

- The Mayor of London has instigated a Homes for Londoners' Board. In his election manifesto, Sadiq Khan stated he would be: 'Supporting housing associations, who build 40 per cent of all London's new homes, and who have committed to double their construction pipelines from 90,000 to 180,000 homes.' Around a third – possibly more – of the potential residential accommodation identified in the HTA Report quoted is derived from the public sector.

Major press stories in November concerning Tesco and Apex discussions

- Tesco has publicly stated it is 'looking at our property portfolio to identify opportunities where we can release value whilst enhancing the experience for customers. These opportunities may take a number of different forms from building on car parks to the redevelopment of whole sites.' As stated in City AM on 20th November: 'the discussions are with Apex Housing Group, a London-based developer that specialises in building on top of existing buildings, as was headlined in the Sunday Telegraph Business Section.

Various business publications…

- In the summer of 2016, Apex featured in the 'New Trends' section of the British Airways inflight business magazine

…. internet search: totally dominant rankings

- Internet search: 'Rooftop Development' visibility is rising fast. Entering this into leading engines will list Apex (and no other entities supplying as such). 'Homes for Londoners rooftops' lists Apex as items one, two and three.

Early 'proof of the pudding': options secured for 140 new apartments

- Apex is currently working with freeholders to agree options which could deliver up to 140 new homes.

Property is local, so the example of the recent two Apex developments at Abbey Road and Wilmott Place in Camden given in the April 2016 edition of Ham & High, the district most adjacent, will generate potential leads

http://www.hamhigh.co.uk/property/camden_homeowners_should_sell_air_above_properties_to_build_new_homes_1_4503068

This prompts the call: 'how much is my roof worth?'

The driver of the articles is to trigger in the mind of the smaller freehold owner: how much is my roof worth? Currently there is no established market for roof space sales.

Marketing and branding

Brand promotion maximises the market presence and Apex's visibility with owners and planners. Clearly this is best driven by the in-house team – for two reasons, we consider. Apex's overall business model does include outsourcing, but Apex keeps 'top level' mission critical under close control internally. Apex so far has generated significant interest in its disruptive model which, by its nature, creates momentum for further brand promotion. This raises the pipeline and hence the visibility of future income so marketing has a direct result, namely increasing future cash flows.

Apex is engaging at multiple levels to ensure optimal supply-chain capacity and efficiencies. It is maximising its visibility within the community of rooftop owners and is enhancing understanding amongst opinion formers and potential counterparts.

Further, it has taken on the business communications consultancy, Instinctif Partners, to support the development and promulgation of the message.

Local authorities and public sector bodies, including planners: We understand Apex is in discussions with some two thirds of London local authorities. Apex is progressing interaction with the GLA, and the housing association trade body, The National Housing Federation.

Rooftop owners: This is through commissioned lists, specialist publications and specialist events. Apex is also branding itself through umbrella freehold block management companies.

Supply chain: This comprises high-circulation industry publications and is likely to include international publications.

Apex has significant ongoing commitment to brand-support, and has a detailed marketing plan drafted to further its message to all market segments.

What Apex Airspace Development plans to do

The Apex team

An in-house team modelled on the commercial real estate developer mode

Large commercial real estate developers have relatively small teams and significant capabilities to coordinate outside consultants. It is the large teams covering as much as possible of the supply chain in-house (even conveyancing in some cases) which the housebuilders deploy, which we consider out of the ordinary in terms of real estate development. Some 13% of total costs as modelled by Apex relate to consultant (the outsourced professional services) costs. This is not dis-similar from the ratio for some of the large commercial property developers.

A core team controlling the brand message, with expansion into project managers

The Apex team currently consists of some 16 members of staff, who act as a core team. A new layer of project managers is planned and being sourced to assist scaling of the business and to build procurement and delivery chain controls.

Apex already has established a professional services supply-chain

Given the skills constraints within London, a key part of Apex's growth plans will be achieved through outsourcing key elements of its procurement chain. Apex is already an established operator in the London property development sector, and has an extensive, well-embedded external team who can deal with all of the delivery aspects of projects. Additionally, Apex has a strong network of agents who are sourcing and directing new leads; they are incentivised through a fee structure.

Key procurement chain partners:

- Multi award winning consultancy, HTA have over 155 staff, based primarily in London, with extensive expertise in architecture, design, and planning consultancy. The company has won numerous design awards for place- making, innovation, and design, and are led by the next President of the Royal Institute of British Architects, Ben Derbyshire. HTA undertake extensive work for London's local authorities, and they have made significant contributions to the development of planning policy in London, working with the Greater London Authority.
- Grant Thornton – Apex has entered into a collaborative partnership with Grant Thornton to develop its reach and influence with a range of large commercial freeholders.
- Winckworth Sherwood – legal advisors for Apex, offering extensive expertise in leasehold management and network of contacts with central London's freeholders. The practice has some 54 partners operation from its office at London Bridge.
- Runds Partnership – Runds Partnership are a multi discipline project management and building consultancy, with 57 staff located in its offices in London and Southampton. The Partnership brings a range of surveying, cost management and project management expertise and capability to Apex's in-house team.
- Scott White & Hookins – a long-established building surveying practice, ranked in the top 100 of civil engineers practices in the country. They have a

professional team of some 40 surveyors, with extensive experience in buildings surveying and are a key element in the project appraisal of suitable properties for Apex airspace

- Modular Airspace Systems – MAS are an offsite manufacturer and installer of lightweight timber-frame homes. They have wide ranging experience in developing new offsite systems for both the housing and commercial sectors.

Apex has sufficient project management skills to take it to the next planned level. In terms of new business contacts, Apex has also developed and incentivised property agents to support and enhance the capability of its core team. Further, whilst internet searches are by nature limited in scope, the widespread nature of rooftop ownership makes this criterion (namely Apex having high rankings in the relevant searches) highly important. It has achieved this already and news flow is rising.

Scalability

Potentially, as the business scales, Apex has the choice to add more procurement power to protect gross margins, and it will have an ever-greater choice of partners. Furthermore, marketing acts as another leg of the team. The model, after the first full year, is seen to be cash generative. We anticipate some of that to be re-invested into marketing. Much has been achieved to date with low spend on marketing (this is a specialised not a mass market, for example). It is at Apex's choice, especially in year two onwards, to expand this.

The physical proposition and the systems

The Apex Wilmott Place development of 2015

First, we start with achievement to date. The pictures below of a development at Wilmott Place, London illustrate the way in which Apex's approach can not only add additional space to a building, but also totally transform the original.

Wilmott Place, Camden – Apex development

Source: Apex

Wilmott Place, Camden – Apex development

Source: Apex

A new render and replaced windows added to upgrades to the common parts and enabled the pre-sale of a single penthouse for £1.275m. All-in costs were 55% of GDV - £0.7m. It is stated by Apex that the existing flats increased in value by 15% as well. The scheme took 16 weeks from receipt of planning Apex states. Appraisal had commenced two months prior to Apex committing to the project. At that stage, before the 'roll-out' of the model, Apex maximised its uplift by purchasing the roof. A similar project type is currently under way by Apex at Abbey Road, London.

Risks

Robust supervision and documentation

Operationally, the delivery of complex building projects is never easy. Apex benefits from the fact that the physical construction requirements can largely be outsourced. Nonetheless, the deployment of structural engineers, M&E contractors, roofing, planning and legal consultants requires significant monitoring and coordination of resources from the client – namely Apex. Further, on a site level, Apex needs to keep expert, regular and frequent control and checks on each development and provide all documentation required. This is exactly what Apex Housing Group has been doing for years.

Range of customer types – diversity but some types are new to Apex

Apex's team seeks to supply a range of new homes from fundamentally widely different customer types (e.g. local authorities through to enfranchised leasehold as per the Abbey Road example). Apex has engaged at senior levels within each segment. As the quantum of the business expands, it needs to ensure the delivery of start-to-finish service in each of the varied segments remains robust.

Apex's team needs to be able to liaise with all clients, relevant authorities, suppliers, residents and neighbours. The current team is being expanded to meet these varied demands.

Factory-built modular construction is positive – needs tight control

Factory-build is now an established business for residential construction in the UK. However, it does not preclude the risk of factory slots at preferred suppliers being un-available at the right time or the right price. This would affect timing of revenue but not, within this model, the quantum of gross profits.

Fixed costs and working capital are likely to rise but the model is economical in both regards

The financial model is impacted by two principle issues; firstly, the fixed costs required by the organisation to facilitate winning business with confidence and, secondly, the need for greater working capital as the company expands. Naturally, in a business where we anticipate high gross margins, once the initial demands for working capital are supplied, further expansion may well be financed from retained profits. The model is predicated on significant positive cash generation at a point during the first full year of operation (2018).

Risk mitigations

In addition to risk mitigation illustrated above…

… the 'first mover' and newsflow evidenced are significant positives

Apex, we consider, has first mover advantage in the way it facilitates development gains for its clients. The model is, however, replicable. We view Apex as a positively disruptive model. Disruptive businesses will often secure long-term benefit from the status of first mover in their newly created market. Apex thus should secure the long term market share benefits of its anticipated shorter term strong market presence. There is a financial cost to this. It has to date achieved high visibility in the press, on the internet and with several (London focused) public bodies. This bodes well.

The length of the option is important positive

Apex buys a three-year option to develop. This gives it a long 'window' to optimise its timing.

Apex strikes the quantum it pays for the right to develop on a roof at the time it makes the decision to start the build process. This is totally different to 'traditional' developers, where by far the largest input to the end margin is the price paid for the land. This commitment may typically be years before the decision is made to build. The gross profits will be known (in the large majority of cases) before development. The quantum will be known at that stage, but the future trends in gross margins on future sites are subject to finding appropriate sites and the appropriate costings, both of which are uncertain.

Volumes and margins may be affected by development market cycles….

…. but not necessarily so

We consider both the quantum of projects and the gross margin trends to be affected by factors other than the broad residential market cycle. Indeed, both might have many elements of counter-cyclicality. We anticipate many clients to be regulated/ public sector and the drivers here will be related to government policy (e.g. capital receipts, London Mayor planning drives etc., as well as the rental policies forced on RP's by legislation). In a downturn, costs might fall whereas residential prices may or may not. In a downturn, the balance of power in pricing the profit share between rooftop owner and Apex may change (with some owners possibly being keener to find sources of guaranteed cash profits). Nonetheless, Apex is operating in a market (residential development) which has cycles.

Labour costs swings and safety issues are largely (not entirely) by-passed

We have referred in sections above to the significant risk mitigation achieved by basing delivery on factory build. Pricing and timing are 'nailed down' and there are health and safety benefits too. Exit from a free labour market within EU may or may not take place but this will have no material impact on Apex. It could have significant impact on the construction market.

In a number of different markets within London

The plan is to have a London focus but there will be a wide range of different markets from outer zones to prime central. Mitigating the risk of prime central is the fact that total build costs are only modestly higher than average, whilst sales values are a multiple higher.

Sales costs can spiral in a slowdown for 'traditional' developers, but not for Apex

The sales costs carry no risk. It is not an in-house function of Apex.

Strong pricing power vs supply chain and end-buyers

Apex has a wide field in which to operate and pick its best targets. By 2018, we anticipate Apex completing developments totalling under 0.7% of the total stock of sites calculated to be available for such development in London. Apex will therefore be in a strong position to optimise its choices – part of that being the fair split of returns between Apex and the rooftop owner. It has pricing power with suppliers of 1) rooftop; 2) labour; 3) end buyers (given London residential shortages).

Selected risks

Leaseholder/ freeholder legal issues	Most significant
Market conditions for sales	Most significant
Contractor availability	Most significant
Access to roof	Significant
Cost control monitor	Significant
Structural	Significant
Resources – skilled personnel	Significant
Financing growth	Significant

Source Hardman & Co

The list, above, points to risks with the most potential impact/likelihood. Other likely issues with lower impact include right to light compensation, planning and marketing.

Potential Apex financial opportunity

Financial model: profit shares, working capital

Procurement power

Apex targets a modest market share within a modest conversion rate of potential sites, in order to maintain strong pricing power

- The potential number of units which could be developed in total in London has been identified at 180,000.
- If only 10% of these are developed in an initial ten-year period, that gives potential output at just under 2,000 apartments per annum.
- The current number being developed is 400 p.a.
- We consider it reasonable to model Apex taking a 10% market share for those 2,000 potential delivered annually. Its model delivers a simple, efficient model creating value through planning gain and then at the efficient delivery of the completed apartment. A market share of 10% may well significantly under-state the Apex potential. The key is maintaining procurement power. We understand Apex models approximately 120 apartments in the first full year roll-out, followed by a rise through 200 pa run-rate during the fourth full year.

Strong margins – c. 63% margin to be shared with roof owner

27% gross (site) margin to Apex but a 63% margin to be shared between roof owner and Apex

Typical cost of sales per private sector apartment

Value / cost element	£
End sales value	610,000
Cost of acquisition of rooftop right	217,000
Build cost	154,000
Outsourced cost planning, preparation, marketing of apartment	73,000
Gross pre-tax PROFIT	167,000

Source: Apex, Hardman estimates

- A circa 27% gross site margin (after all outsourced costs).
- A circa 65% gross margin if costs of the acquisition of the right to build on the roof are excluded.
- The figures above exclude the Apex in-house costs. In the first full year (2018) we anticipate these equating to circa £7,000 per completed apartment. Clearly this figure is dependent both on the £ quantum in-house and the completed volumes.
- For payment timings, see Table overleaf.

Quantifying potential returns:

We calculate that, even without resort to financial gearing, a ROCE of 90% is achieved. The figures below are illustrative and show £177,000 year of cash outlay. With a £160,000 illustrative EBITDA per apartment, this is a pretax return of 90%.

The bulk of financial outlay is for 6 – 7 months but a large minority only goes out at the end (i.e. does not hit the cash flow at all)

Typical disbursement timings for private sector apartment

Value / cost element	£	Months money committed
Initial option payment	5,000	11 *
First half of roof cost	106,000	7 *
Factory cost	154,000	6
Outsourced cost planning, preparation	60,000	Average 6 *
Second half roof cost	106,000	0
Marketing via estate agent	13,000	0
In-house overhead	7,000	5.5 *

Source: Apex, Hardman estimates

Items marked with * would be affected – in terms of months' length of capital employed – in the case of any deliberate timing deferral of project commencement by Apex. We have pointed to the possibility – the flexibility – created by the option Apex owns. It might delay development in order to optimise returns. It is noteworthy that if one assumes a delay of six months at Apex choice (as outlined above, to optimise market timing), a ROCE of 70% pa pre-tax is achieved. The delay stretches the time over which working capital is deployed. It does not however extend the time for the WHOLE of the working capital. The factory costs, the second half of the payment to the roof owner and the payment to the estate agent would all move back in line with the delay in commencing the build phase, as would a good proportion of the outsourced costs.

If the project time-line is stretched, c.69% of total capital committed is UN-affected

Delay (at Apex choice) would only impact circa £140,000 out of the total £450,000 costs.

Why do we build in a delay? In part this is through seeking to outline conservative returns. In part, it is to highlight that Apex is in control of timing and whilst in some cases it may start to develop right away, in other cases, it will maximise its return through a brief pause.

This 90% pre-tax ROCE figure we see as the most conservative base case figure. It makes no assumptions on use of trade credit and assumes the payments to consultants are front-weighted, so a more realistic ROCE would be over 100%. Gearing is likely, thus raising returns further.

The model illustration above is based on private sector sales. We do highlight that maybe a third of the potential market volume would be within the public or regulated sector.

This is a highly cash generative model once completions start to come in from the early projects. As can be seen above, there is a cash outflow during each project so the model seeks cash outflow year one. With in-house overheads kept appropriate but modest, the high gross margins ensure cash inflows overall on a prompt timescale. We consider Apex will then have the choice of devoting a portion of that cash generated to investing in accelerated growth in the 'airbank'.

We see the Apex model, driven by 90%+ ROCE at project level, delivering high volume of product and profit from a modest initial level of capital.

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Apex Housing Solutions Ltd

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Hardman Research Limited (trading as Hardman & Co)
11/12 Tokenhouse Yard
London
EC2R 7AS
T +44 (0) 207 929 3399

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Hardman Team

Management Team

+44 (0)20 7929 3399

John Holmes	jh@hardmanandco.com	+44 (0)207 148 0543	Chairman
Keith Hiscock	kh@hardmanandco.com	+44 (0)207 148 0544	CEO

Marketing / Investor Engagement

+44 (0)20 7929 3399

Richard Angus	ra@hardmanandco.com	+44 (0)207 148 0548
Max Davey	md@hardmanandco.com	+44 (0)207 148 0540
Antony Gifford	ag@hardmanandco.com	+44 (0)7539 947 917
Vilma Pabilionyte	vp@hardmanandco.com	+44 (0)207 148 0546

Analysts

+44 (0)20 7929 3399

Agriculture

Doug Hawkins	dh@hardmanandco.com
Yingheng Chen	yc@hardmanandco.com
Thomas Wigglesworth	tcw@hardmanandco.com

Bonds

Brian Moretta	bm@hardmanandco.com
Mark Thomas	mt@hardmanandco.com

Building & Construction

Tony Williams	tw@hardmanandco.com
Mike Foster	mf@hardmanandco.com

Consumer & Leisure

Mike Foster	mf@hardmanandco.com
Steve Clapham	sc@hardmanandco.com
Jason Streets	js@hardmanandco.com

Financials

Brian Moretta	bm@hardmanandco.com
Mark Thomas	mt@hardmanandco.com
Chris Magennis	

Life Sciences

Martin Hall	mh@hardmanandco.com
Gregoire Pave	gp@hardmanandco.com
Dorothea Hill	dmh@hardmanandco.com

Media

Derek Terrington	dt@hardmanandco.com

Mining

Ian Falconer	if@hardmanandco.com

Oil & Gas

Stephen Thomas	st@hardmanandco.com
Mark Parfitt	mp@hardmanandco.com
Angus McPhail	am@hardmanandco.com

Property

Mike Foster	mf@hardmanandco.com

Services

Mike Foster	mf@hardmanandco.com

Special Situations

Steve Clapham	sc@hardmanandco.com
Paul Singer	ps@hardmanandco.com

Utilities

Nigel Hawkins	nh@hardmanandco.com

Hardman & Co

11/12 Tokenhouse Yard
London
EC2R 7AS
United Kingdom

Tel: +44(0)20 7929 3399
Fax: +44(0)20 7929 3377

www.hardmanandco.com