Creating low energy SIPs homes since 2003

lan Clay

Welcome to the latest edition of Connect, SIPS@Clays annual newsletter.

For those new to SIPS@ Clays, we design, fabricate and erect the Kingspan TEK® **Building System - a structural** building system that leads the way in high performance, energy efficient construction.

In this issue, we've put together a brief round-up of some of the fabulous SIPs self build projects we've worked on over the past eighteen months, we've outlined the many benefits of self building with SIPs, including how the system will lower your energy usage and there's also a sneak peek into how we create a SIPs home... from drawing board to installation

There's no denying that there is a thirst for low energy homes, speedy construction and design flexibility and as such, self-builders, architects and developers are turning to Structural Insulated Panels (SIPs) as the catch-all construction solution.

As a result, we've been busier than ever and despite the challenges of Brexit, shortages of building materials and of course, the Pandemic, we have successfully delivered 120 SIPs projects across the length and breadth of the UK in the past 12 months.

When choosing your SIPs building system, and your SIPs provider, it's important to know that you're buying the best. As the original delivery partner for the market leading Kingspan TEK[®] Building System, we've explained how we were chosen to spearhead the network of delivery partners back in 2003 and outlined the wealth of expertise a delivery partner, like ourselves, brings to your project. In addition to our self build clients, we work with contractors and developers on commercial and residential developments across the country and in the past year we've delivered some outstanding projects. On page 8, there's a snapshot of what we've been working on and with a positive pipeline for 2022/23 it looks like building with SIPs is growing in popularity within the commercial sector too.

Maintaining high standards is something that has always set us in good stead and it is gratifying to see our efforts paying off by once again achieving the Structural Timber Association's (STA) Assure Gold status. We know it gives our discerning clients confidence that they are working with an organisation that not only meets but exceeds the standards they expect.

... And finally, if you're thinking of building with SIPs, we've also included a selection of our most frequently asked questions together with a few 'top tips' from Andy Porter to help you begin your self build journey with confidence.







There's no

denying that

there is a thirst

for low energy

homes, speedy construction and

design flexibility...

and SIPs are the

perfect solution.

lan Clay

SIPS@Clays

Partner,

BENEFITS OF SIPS

- Energy efficient pre-insulated super structure
- Thermally efficient °
- Airtight construction
 - Speedy build
 - Ideal for smaller ← or tight sites
 - Off-site precision engineered system
 - Cost effective ←
 - Reduced labour ~ requirements
- Room in Roof option ←
 - Flexibility of Design ←
 - Minimal Waste --
 - Green Credentials ←

IN THIS ISSUE

clays.com

01756 799498

TAKING A FABRIC FIRST APPROACH



BRINGING YOUR SELF BUILD TO LIFE



SIPS CASE



THE FAQ's



TAKING A FABRIC FIRST APPROACH

Zero carbon housing is at the top of the government agenda, so it's never been more pertinent to build with energy efficient materials such as Structural Insulated Panels (SIPs). As one of the most sustainable methods of construction available, its popularity amongst environmentally conscious self builders is soaring.

There are so many reasons why building with SIPs makes perfect sense... flexibility of design, speed of build, increased living space and exceptional versatility. Undoubtedly though, the most important benefits of a SIPs building system is the thermal efficiency, low energy living and green construction credentials it provides. By taking a 'fabric first' approach, self-builders and architects are recognising the benefits of maximising the performance of the materials used for a building's external envelope.

The 'built in' thermal properties of a SIPs system and the reduced thermal bridging. increased airtightness and low U-values it offers, can reduce the amount of energy used to heat or cool a room by up to 50%. In most cases it removes the need for additional technologies or conventional heating entirely and relies on the natural efficiency of the fabric of the building. Of course additional sources of heating or cooling can be included if desired.

Add into this the off-site manufacturing, minimal waste and low environmental impact, SIPs are the perfect construction solution for all self-build projects, including those being built to Passivhaus standards.

So, if you're at the start of your self-build journey and want to understand the benefits of taking a 'fabric first' approach speak to the SIPS@Clays team and learn how SIPs will make your new home green to the core.

> Working with the team at SIPS@Clays has been extremely easy and although we knew from the outset that we wanted to create our sustainable home using SIPs, they carefully guided us through the process, offering support every step of the way."

Justin Metcalfe & Catherine Buttery / Self Builders

ANSWERING THE FAQ'S

Choosing your construction method is one of the first and most important decisions you will need to make when starting out on your self-build project. Your choice will no doubt be based on a host of considerations such as lifestyle; environmental impact; site location; timescale and budget.

To determine whether building with SIPs is the right choice for you (and of course we think it is), we've answered some of your frequently asked questions. Hopefully, these nuggets of information will make your decision a little easier and provide you with a firm foundation to start your SIPs self-build journey.

What are SIPs?

SIPs or Structural Insulated Panels are a high performance construction solution used to create energy efficient homes. They are typically used for the structural shell of the building i.e., external walls and roofs, and offer a simple and highly adaptable construction method for self-builders and developers alike. Each panel consists of two sheets of 15mm oriented strand board (OSB) sandwiched around a rigid urethane insulation core to provide a thermally efficient, superstructure for your new home.



Why should I build with SIPs?

There are many advantages to building with SIPs. Energy efficiency, low U-values, reduced thermal bridging and excellent levels of air-tightness. They offer a speedy build, have exceptional design flexibility and are perfect for small, challenging plots. Building with SIPs offers a predictable dry-build programme, minimal waste and maximised living space. which ultimately adds value to your home. Extra insulation can be added to the internal face of a SIPs structure to improve thermal performance even further.

What design features can I create with SIPs?

One of the many design benefits of using SIPs, and in particular the Kingspan TEK® Building System, is the system will always provide a larger floor area than can be achieved when using traditional build methods, due to the thinner construction components.

This is particularly evident within the roof space where unlike brick and block builds that require roof trusses, SIPs roofs are supported by glulam beams. This obvious benefit not only provides additional living space with a value adding 'room in the roof' but can often make a fabulous design feature, especially when the roof is left open to the eaves. This will increase the room height to create a light, bright, contemporary living space.



Are there any design limitations with SIPs? Flexibility in design and ease of construction means there are few limitations to building with SIPs, and design complexity is no barrie

and design complexity is no barrier to building a SIPs home. Designing with SIPs offers many options and we make sure our clients know exactly what can be achieved.

The simplicity of SIPs allows for practical amends to designs and architects drawings prior to fabrication. Credible SIPs designers, such as our in-house design team can design 'in' or 'out' elements of the plans that will enhance or impede your project. Value engineering and cost saving efficiencies are identified and applied by us at the design stage.





build my new home? A SIPs home can be erected approximately 30-40% faster than a traditionally constructed building. The off-site fabrication process, coupled with a predictable build programme (i.e., installation not being subject to weather delays or labour issues) means that typically the SIPs structure will be weather resistant and ready for hand over to clients and follow-on trades, in two to three weeks. For example, a twostorey, 200m² house will take around three days to fabricate and 10 days to erect.



We Make Self Build EASY

Established in 2003, SIPS@Clays are the UK's leading provider of Structural Insulated Panels (SIPs).

As the original delivery partner of the market leading Kingspan TEK® Building System, SIPS@Clays designs, fabricates and installs SIPs for self-build and commercial projects across the country.

Working with SIPS@Clays couldn't be easier. From initial design and fabrication right through to on-site installation, we carefully guide you through the process; working hand in hand with you, your chosen architect and your main contractor.

With everything in-house, including our own design studio, where we push the boundaries of SIP designs, our streamline procedures ensure an end-toend service that is hard to beat. We stylishly design using CAD and interactive 3D modelling; we precision engineer with the latest cutting technology and expertly install your structure using our own teams of qualified installers. We strive for excellence in every aspect of our business and have been awarded one of the top accolades within the structural timber sector - STA Assure Gold.

From our HQ and factory in Skipton, North Yorkshire, we apply our many years of experience, both in SIPs and traditional construction, to provide technically sound, straightforward solutions that are individually tailored to your needs.

We take a fresh approach to homebuilding, so send your plans to SIPS@ Clays.com for a speedy and reliable quotation.

How much of the build would SIPS@Clays normally be involved in?

We work closely with clients, architects, contractors and developers right from the outset of your self-build journey, offering technically sound, straightforward SIPs solutions that are individually tailored to each project.

We are 'practically' involved until the structure has been erected by our expert team of installers, to the point where your SIPs superstructure is completely weather resistant and ready to hand over to follow-on trades. However, our involvement does not end there. We have an outstanding reputation for customer care and we are always on hand to discuss any aspect of a SIPs project.

How Do I Begin my SIPs Self Build Journey?

If you have plans you'd like to discuss, send them on to us and one of the SIPS@Clays team will contact you to provide a speedy quotation or answer any queries you have about building with SIPs.

Send your plans to SIPS@Clays.com

clays.com 01756 799498



Semi-retired couple David & Julie wanted to build a new, modern. low maintenance. lifetime David & Julie dwelling on a 0.6 acre plot

FEB

of their original 1903 stone built house.

in the grounds

Although downsizing, they didn't want to down grade, so with architect Vic Craven from Craven Design, drew up plans for an energy efficient SIPs home which was small enough for the couple to easily maintain after

retirement, vet flexible enouah to welcome family.



As a young man, Sam fell in love with a row of four 1950s contemporary bungalows in a beautiful village in Lancashire, and was determined to one day. live there.

When the opportunity arose to buy one of the properties many years later, Sam and wife Joanna jumped at the chance and set about creating a dream home for them and their young family.

They drew up plans to demolish the existing bungalow and create a replacement SIPs family home that maximised the spectacular views



DEC



Sam & Joanna

Inspired by the traditional Saltbox homes of New England, Raikes Corner is a high performance, energy efficient SIPs home, beautifully designed to sit perfectly within the Skipton Conservation area and complement the traditional stone and slate homes found in the 'Gateway to the Dales'.

Constructed from 142mm Kingspan TEK Building System, it is clad with close jointed traditional stone with a slate roof. It has solar panels incorporated into the SIPs roof, an MVHR system, underfloor heating and has bespoke triple glazed windows. The new SIPs home achieved an impressive 1.5m3/h.m2 in the airtightness test.

over the Ribble Valley and Trough of Bowland. Designed to stay true to the original bungalow but with a modern interpretation to its post war, modernist style, and in keeping with the neighbouring homes, Sam and Joanna's home is a high performance, energy efficient, three storey SIPs homes that sits perfectly within an Area of Outstanding Natural Beauty.

The upper ground and first floor are constructed from 142mm Kingspan TEK Building System, built on a concrete lower ground basement structure, sunk into the hillside.

> The stylish home is wrapped in Corten steel, standing seam aluminium and black burnt larch cladding, complemented by off-white Wetherby





After exploring various construction methods. first time self builders **Catherine and Justin** decided that SIPs would be the perfect solution to build a low energy home at the UK's largest **Custom Build site in Bicester.**

Designed by architect Justin to embrace passive environmental features, the stylish three storey, four bedroom home with an open-plan layout, won Best SIPs Home in Build It Magazine's 2019 Awards.

Deemed by the judges to 'stand out from the crowd', the eco-efficient, custom build home demonstrated the flexibility, functionality and sustainability of a stellar SIPs home.

Thrilled with the route they chose Justin and Catherine said: "As first time buyers and self builders, we thought that self-building would be out of our reach but using SIPs allowed us to achieve what we wanted, without compromise."

> Although it was stressful, we've loved the process and every time we drive up to the house, or as we're sitting in the living space looking out at the views and vistas, we think WOW...

> > Sam & Joanna

In need of a large house that would provide the option of multigenerational living for his growing family, Jeremy purchased a secluded plot at the rear of an old stately home, just 200 meters from his existing home in Devon.

With planning already in place for a 6000 sq ft contemporary five bed detached home, the former sheep field was perfectly located for him to oversee the project.

This impressive home includes vaulted ceilings



Chosen for the speed of build and design flexibility SIPs were the ideal building solution to create the WOW factor that Jeremy was looking for in his new home. With



Garrie had held a lifelong desire to design and build his own home. When he and wife Sue saw the ideal plot at Graven Hill nr Bicester, they knew it was the perfect place to fulfil the dream.

Not able to buy a home that suited Sue's disabilities, the couple set about designing their own. They wanted

Ross and Sally had always wanted to build their own home, and their dreams came to fruition when they finally moved into their fabulous SIPs self build in May 2020.

The striking home, situated in two acres of woodland in a small village in Northumberland, was designed in a traditional farmhouse style complete with gin gan. To give their SIPs home a modern twist Ross & Sally incorporated double height glazed links with a glass balcony

a lifetime home that gave Sue flexibility and freedom, was wheelchair friendly and ultimately aided her mobility and improved her quality of life. They wanted a home that was aesthetically pleasing and was not obviously built with disability in mind.

To make the most of the views from the desirable corner plot, the living room is on the second floor and so provides 'upside down living'. The house was designed with plenty of high performance glazing - vital for the couple to connect with the landscape whilst also providing lots of natural light.

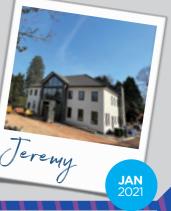
bridge between the buildings and included a pool within the plans.

Taking advantage of one of the many benefits of using SIPs, the couple's new home has an impressive double height entrance and bedrooms which are left open to the eaves with exposed beams.





an 8.5m double height entrance hall with cathedral windows and vaulted ceilings, it is a fabulous example of what can be achieved when building with SIPs.



Garrie and Sue chose a SIPs building system as their construction method, to benefit from the design flexibility, thermal efficiency and speed of build it offers. The design of their new four bedroomed home incorporates voids where the ceiling is open to the eaves - a fabulous design feature that SIPs offers.

Graven Hill is the largest custom build site in the UK and Garrie and Sue's self build story was followed by Kevin McCloud for Channel 4's Grand Designs, The Street.



Although Ross & Sally had done many renovations and rebuilds, this was their first self build project and they are delighted with the outcome.

Ross said "We were very impressed with the design and speed of build that SIPs gave. Our new home really does have the wow factor with fabulous views, a stunning entrance and stylish living room within the gin gan."

Having owned a plot of land adjacent to their home for 34 years, Gavin & Fran were waiting until retirement to begin their first self build project.

There was already a listed thatch barn on the plot, which due to planning restrictions, could only be refurbished, although planning permission was granted to create a new linked dwelling on the footprint of a second barn, which had previously collapsed.

Working closely with the Local Planning Authority Conservation Officer and village Parish Council, the couple came up with a design to make their new SIPs self build look agricultural and in keeping with the existing barn.

Using SIPs has enable the couple to build a highly efficient, modern home within a conversation village. The stylish home has four bedrooms, two of which are en suite, three bathrooms, and a striking 9m x 6m kitchen/ living area. It has large full height windows which let in plenty of light and an impressive internal balcony.

According to Gavin, one of the most memorable moments of the whole project was watching the SIPs building being installed. The superstructure of the couple's new home was completed in just two weeks. JULY

Gavin & Fran

 \mathbb{N}

ſ



Bringing your self build **IO LIFE**

Our full service SIPs package not only covers design, fabrication and installation but we also guide you through what is arguably the most exciting (and daunting) part of your self build journey... Here's how the SIPS@Clays team creates the superstructure of your new home and finally brings your self-build dream to life!

THE SIPS@CLAYS TEAM



DESIGN TEAM AT THE READY

Once you've signed on the dotted line and we've received a copy of your architect's drawings, we get our creative juices flowing. Firstly, our in-house design team creates basic preliminary drawings, which roughly translated means we turn your traditional architect's drawings into SIPs friendly designs. It's here that we add value engineering and offer design suggestions that can be easily achieved with the flexibility of SIPs. The drawings, although simple at this stage, also show you exactly what we are supplying i.e., walls, window/ door apertures, beams and roof panels etc.

GATHERING YOUR FEEDBACK

To make sure we're on the right track, we send the preliminary drawings to you and your architect. This is when the excitement really begins. It is at this point you can request an animated 3D SketchUp modelling to see how the kit will look when installed. Our design team love creating these and enjoy seeing clients' reactions when they watch their self build home come to life!

FINE TUNING THE DESIGNS

We believe that 'teamwork makes the dream work' so we work closely with you, your architect and main contractor to fine tune the designs, until you (and we) are 100% happy.

The SIPS@Clays team will talk through any queries, offering SIPs solutions, reassurance and guidance at any point - don't hesitate to ask

THE FINAL DRAWINGS

Once there are no more changes to make and you are happy with the designs, we issue the Approved Drawings for you to sign-off. These are used to create the technical fabrication drawings and order the ancillary materials such as glulam beams, floors, steels and additional timber. No further changes can be made to the designs after this point.



SCHEDULING INSTALLATION

As we have our own in-house teams of qualified SIPs fitters, we can easily schedule installation of your SIPs building system to fit with your build programme and after approval of designs, this is exactly what we do. Depending on the size, location and complexity of your build, our fitters will even billet on site to make sure the installation of your new home is as speedy and efficient as possible. This will enable follow on trades to get going as soon as possible.

TIME FOR PRODUCTION

All the designs have been approved, timelines agreed, materials ordered and fitting teams scheduled, so we can now begin to fabricate the Kingspan TEK[®] Building System for your new home. We create technical production drawings, that our expert team of fabricators use to precision engineer each individual panel. Once cut to size, the panels are routed, packed and sequentially stacked ready for delivery to site.



DELIVERY TO YOUR (VIRTUAL) DOORSTEP

We deliver every component of your SIPs kit directly to site using an appropriately sized mode of transport. Generally, this will be a flatbed truck but could vary depending on location and access. We've even been known to roll out our very own tractor and trailer to deliver a local iob with restricted access! It is essential however, that preparatory works, including preliminaries, laying foundation slab and installation of site equipment are carried out prior to SIPs delivery.

THE EXCITING PART

Once all components of your SIPs building system are on site and regardless of bad weather, our fitting team will begin erecting your new SIPs home. This typically takes 2-3 weeks depending on design so before you know it, you will see your home come to life and your self build dream finally becomes a reality.



Production Panels Delivery to Site Materials Approva Engineer Drawings Ordered 2 - 3 weeks 4 - 5 weeks 10 - 12 weeks WORKING WITH US COULDN'T BE EASIER AND WITH EVERYTHING UNDER ONE ROOF We are a Kingspan TEK® **Delivery Partner which** means we have unrivalled knowledge of the Kingspan TEK[®] Building System and are experts in structural insulated panel (SIPs) construction.

Back in 2003 we were approached by Kingspan to become the very first Kingspan TEK[®] Delivery Partner - an achievement of which, nearly 20 years on, we are still very proud. As pioneers in the provision of SIPs and with a well-established and successful background in traditional construction, we were seen as the ideal choice to help spearhead the nationwide network of Kingspan TEK® Delivery Partners.

Manufactured in our home county of North Yorkshire. Kingspan TEK[®] is the leading structural insulated panel building system and is only available through approved UK, Irish and international Delivery Partners.

As the original Kingspan TEK[®] Delivery Partner, we recognise the significance of our association with the global leaders in high performance insulation and building envelope solutions, and by providing a service that reflects this status, we remain at the forefront of SIPs construction in the UK.



WHAT IS A KINGSPAN TEK® **DELIVERY PARTNER?**

A Kingspan TEK® Delivery Partner is fully audited and approved by Kingspan to design, supply and erect the innovative building system. With unrivalled knowledge of SIPs construction, accredited Delivery Partners ensure that the advantages of Kingspan TEK[®] are designed and built into every project. Here at SIPS@Clays, we also include value engineering, in-house design expertise and exceptional customer care to the service we offer and ensure that our customers' experience is nothing short of excellent - every time.







OUALITY ASSURED

THE BENEFITS OF USING **SIPS@CLAYS**

- Ourivalled knowledge of SIPs construction
- Section Se & converting drawings to Kingspan TEK[®] Building System designs
- ⊘ In-house design studio
- ⊘ Project delivery across the UK
- ⊘ Maximising design & spanning capabilities of the Kingspan TEK[®] Building System
- ⊘ Adding value engineering
- ✓ Collaborative approach with clients with outstanding customer service
- SO 9001 certified ⊗ ISO 9001 certified

- ⊘ Support & expert guidance throughout the project
- ⊘ No nonsense approach
- ✓ Fully trained & BBA accredited intallation teams
- ✓ Fully audited by Kingspan
- ✓ Fully audited by The BBA
- Single point of contact for SIPs supply chain
- ⊘ Off-site, in-house precision fabrication
- ⊘ Free quotations
- ⊘ STA Assure Gold
- ⊘ Many years of experience in all areas of construction



#CLAYS

As well as having our own design and fabrication teams, did you know we have in-house SIPs fitters who travel across the UK, expertly installing SIPs homes on behalf of our clients?

Our four installation teams have been busier than ever this year working on projects as far afield as the beautiful Scottish Isles of Mull, Arran and Islay to the rural idylls of Devon, Hampshire, Surrey and numerous locations in between!

Here are just a few of the amazing SIPs superstructures our teams have recently installed. We can't wait to see them fully complete:

For up to date information on where the SIPS@Clays installation teams are working. check out the latest 'On Site' Project page on clays.com

clays.com 01756 799498

OTHER

As well as working on some fantastic SIPs self builds over recent months, we've also delivered a host of impressive commercial and volume residential projects on behalf of contractors and developers who recognise the benefits of building with SIPs.



CLARO COURT, **KNARESBOROUGH**

We worked closely with client St Roberts Homes to design, fabricate and install this brand new SIPs development of four contemporary townhouses. Situated just off the busy Knaresborough High street, access to the site was challenging, so SIPs were the perfect building solution.



CHURCH FARM, **o** NR HARROGATE

We've been working with property developer Fountainhead Ventures, to deliver this exclusive residential development in South Stainley. The nine high spec homes, which were SIPs designed, fabricated and installed by the SIPS@Clays team, are all reserved and ready for occupants to move in.



SIPS GATEHOUSE, TEESWORKS FREEPORT

Working on behalf of contractor Esh Construction, we were commissioned to SIPs design, fabricate and install the superstructure for a state-of-the-art Gatehouse at the entrance to the UK's largest freeport in Redcar. This time-critical project was designed, fabricated and installed within two months of being commissioned.



HALL VARLEY HOMES, 6 FOULRIDGE

We have many long standing. valued clients and Hall Varley Homes were one our first customers back in 2003! Nearly 20 years on and we're proud to be working alongside them again. We SIPs designed, fabricated and installed this impressive nine dwelling development in Foulridge.

OPTPS



Building your own home can be a pretty daunting prospect but to get you started and help you along the way, here are a few pointers from SIPS@Clays' Andy Porter, to make sure your SIPs self-build experience is a good one!

DO YOUR PRODUCT (1)

RESEARCH - So you've already decided that you want to build with SIPs, but remember, not all SIPs systems are the same. There are plenty of systems on the market so make sure you understand the composition of SIPs and the benefits the different options provide. Look at thermal qualities, the jointing system - which is key to creating an airtight envelope, certifications and fire performance, strength and stability. Consider a recognised brand such as the Kingspan TEK® Building System for all round quality.



Kingspan TEK® non structural spline joint

2) FIND A CREDIBLE

SUPPLIER – Just like the variety of SIPs systems available, there are many suppliers offering varying levels of service and product. Your supplier should demonstrate unrivalled knowledge of their product, offer a comprehensive package of design, supply, installation by certified fitters, and be members of The Structural Timber Association (STA). Ensure they are transparent in their costings and capabilities.

(3) MAKE A FACTORY VISIT

- After you've made your short list of suppliers, visit their factories and meet the teams. You will quickly get a feel of the organisation and see how your new home will be designed and fabricated. Also ask to see examples of previous work and speak to past clients about their experience with the company.



(4) DESIGN **CONSIDERATIONS** -

Be ambitious! There are no limitations to SIPs design and homes don't have to be boxy and boring. If you, your architect or SIPs designer have vision then anything is possible. Consider adding value to your project with a 'room in the roof' or double your room height by leaving the roof space open to the eaves.

(5) UPFRONT THINKING - As

soon as you've engaged your SIPs provider, it is important to work with them on some 'upfront thinking'. This will ensure that window and door openings are suitably positioned, MVHR duct location is identified to enable correct alignment of floor joists and any other technical complexities are identified early on.

clays.com 01756 799498

It's a lot of work upfront but will ensure value engineering, precise fabrication and it will also save time, hassle and possibly additional costs at the back end of your project.

(6) WEIGH UP THE LONG-TERM BENEFITS **OF SIPS VS COST -**

Your budget is key when you're self building so it's easy to lose sight of the many long term benefits of building with SIPs, especially when you're focusing on the bottom line. Consider the speed of construction and short build programme, reduced on-site labour and plant costs. the additional floor space i.e., a habitable roof space, and the increased value it brings, look at the lifetime cost savings of a thermally efficient SIPs home and most of all, take comfort from living in a sustainable home that you've built yourself.

STA

Kingspan **TEK** Delivery Partne

