**FAQ**

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| **Massivit 3D** | |
| 1. **Who & when founded the company?** | Massivit 3D printing was founded as Big Gimic Art in June 2013 by 3 founders. In 2013 Big GimicArt was renamed Massivit 3D. The founders were: Gershon Miller, Moshe Uzan & Igor Yakubov. All 3 founders have been involved in development of large format solutions for the digital printing industry (in Idanit, Scitex Vision & HP Scitex). Mr. Miller was even amongst the founders of Idanit. Mr. Miller was also one of the founders of Objet which in 2012 merged with Stratasys – which together, under the Stratasys brand is one of the two large 3D printing companies (traded in Nasdaq as: ‘SSYS’). |
| 1. **Who owns the company?** | The company’s shareholders include the 3 founders, private investors & Stratasys (the leading 3D company). The founders are all with a long track record in the digital large format printing world. |
| 1. **How does Massivit financed?** | Massivit enjoys the support of a great group of investors as well as funds granted to it by the Chief Scientist of Israel (a governmental body supporting innovative companies) |
| 1. **How many people do you have in the company?** | There are currently approximately 35 people working in Massivit 3D. On top of our employees we are working with a big and strong network of advisors, consultants and sub-contractors. |
| 1. **Are the products in Massivit patent protected?** | Yes. Patents provide the company with a solid intellectual property base. We have been granted with approval for several patents and have few others that are in different stages of evaluations. There are some solid fundamental elements in the printing process that are patent protected. |

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| 1. **What is your offering? Are you offering printing services?** | Massivit is offering a complete solution of hardware, software and consumables that will allow print shops and other industrial professional printing business to print super-sized objects in great speed. Massivit does not intent do offer printing service to end users. |
| 1. **I understand Gershon Miller is one of the founders of the company – he is also still working for Stratasys – is there no conflict of interest?** | Gershon Miller is indeed one of the founders, and the first investor in Massivit 3D. However, Gershon has no role in the team and he only serves as a mentor to the Massivit management. There is no conflict of interests between Massivit 3D and Stratasys – as the companies have complete different technologies, and completely different target markets. |
| **Technology** | |
| 1. **What is unique in the technology of Massivit 3D?** | Massivit 3D GDP – Gel Dispensing Printing technology is unique in many ways and there is no other 3D printing system utilizing the same technology. It enables Massivit 3D printing system to build objects in speeds that are way faster than any other 3d printing system currently available. The technology also enables to save considerable amount of materials by printing with hardly any to no support structures. |
| 1. **How is the Massivit solution different from current 3D printing devices?** | There are various 3D printing solutions utilizing very different technologies, nevertheless the Massivit solution is different from all of them. It is different by its technology – GDP, At the heart of which is the Dimengel Massivit unique printing material.  The result is that the Massivit solution is larger in format than most printers and it is dramatically faster than any current commercially available 3D printing system. |

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| 1. **Today, 3D printing devices are very slow and it would take days to print a simple large sculpture. How are you intending to overcome this?** | Massivit 3D solution is very fast, and capable of printing up to 35 cm in height per hour. Printing time is obviously very dependent on object size and shape, but as an example it would take approximately 5 hours to print a simple sculpture of a standing human being (‘Adam’) in full size, and the printer can be utilized at the same time to also print another object (Perhaps printing Eve?). |
| 1. **Can you describe the new GDP technology?** | GDP – Gel Dispensing Printing is a new digital category. The GDP process is a game-changing technology for creation of large objects for different markets.  At the heart of the GDP process is Massivit unique printing gel & smart support.  It may seem like the technology is the same as used in other filament based 3D printing systems, but it is completely different.  The GDP utilize movement similar to what is used in FDM systems, while working with the Dimengel - a UV sensitive material that hardness when exposed to UV light.  GDP technology is a delicate balance of movement speed, curing speed, unique material properties, and smart-support algorithms and more – all of these together enables the printing of relatively thick layers with linear movement of the dispensing and curing engine at up to 1m per second.  Overall, the Massivit GDP technology enables Massivit 3D system to create objects at remarkable size and at a remarkable speed. |
| 1. **How long has it been in development?** | For nearly 3 years the team of Massivit 3D has been visioning, developing and fine tuning the GDP technology and the machine & printing material coming with it. |

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| 1. **Do the GDP use inkjet technology?** | No. Massivit and the GDP technology are not utilizing inkjet or inkjet printing heads. |
| 1. **The technology is totally new – how sure you are it is working?** | We have built our alpha systems a while ago, and they have been used in our facility in alpha testing process for months now, printing many objects and test files, including some real jobs we have received from partners and potential customers.  Each of our in house printers, have already worked days and nights and we have accumulated thousands of hours of printing, giving us the assurance with the technology capabilities. More-over, this long experience has given us the confidence in the reliability of our system. |
| 1. **The prints are not in full color – how do I make them colored?** | Coloring prints will have to happen off the printer. It could be done with different methods of applying color from spray guns, through brushes or by applying colored stickers. |
| 1. **Will Massivit 3D offer full color prints?** | At this stage Massivit GDP technology does not include color, and prints come off the printer in a single white base color. Massivit intends to continue and invest great efforts and resources in its R&D efforts that may include also coloring solutions. |
| 1. **How do I get 3D files? Today my customers bring me pictures or sketches of ideas, not 3D files** | There are many ways to create SD files: scanning; creation in variety CAD software; buying on line from repositories etc. |
| 1. **What about support structures & materials?** | In GDP we do not use support materials. The special properties of our printing material allows us to print many objects without support structures that are visible or need to be later removed. This capability saves also on time of printing and saves cost. |
| 1. **What are the workflow stages? Which software tools needed?** | The workflow is similar to the workflow used in 2D printing: file creation (that can be made on a variety of cad / 3d design tools or even scanned). This is then followed by a pre-press stage – where file is validated, scaled and then sliced. This is performed on the Massivit Smart – a software tool provided with the system. The final step is printing. Massivit provides its system with the required on-machine front end. |

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| 1. **What kind of file formats do the system support?** | The system, or to be exact the workflow feeding the system can utilize a variety of 3D file formats including the most common STL file format, as well as OBJ & AMF. |
| 1. **What is the resolution of the system?** | The printer has a variety of printing modes and can print in different layer thicknesses ranging from 0.7mm to 1.7mm. There is a strong bond created between layers in the process of curing the material.  One can also choose the thickness of the printed object ‘wall’ by defining if they wish to print a single wall, two walls or even 6. Each of these ‘walls’ is approximately 1.5mm thick. |
| **Markets & applications** | |
| 1. **What are the main benefits the system brings for a print service provider?** | A print service provider will enjoy a new stream of profitable revenues from selling 3D applications and enhancing his offering to already existing customers as retailers, ad agencies, exhibition constructions etc. He can now extend his offering while maintaining a similar digital workflow concept |
| 1. **Which sectors / markets are you targeting?** | Massivit 3D printing solutions enable the creation of a variety of applications ranging from theming and decoration all the way to advertising and branding related. These applications are created by professional industrial businesses – print service providers; scenic shops & fabricators and is growing new application for some 3D service bureaus. In the future, we foresee additional potential markets that are in a need for large object, such as machine hoods / covers, different application in the furniture & landscaping markets and more. |

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| 1. **What are the target applications of the system?** | Massivit 3D systems address huge and diverse applications ranging from decorative to advertising and even some large format prototyping.  Applications in these markets include 3D displays, exhibitions displays, huge promotion items, and theming and decorative elements. Such objects can lift any marketing campaign, provide a life-time experience at any event and provide a special look and feel to any venue. Massivit 3D output can be applied at endless occasions and locations. It can be used at any commercial and recreational site: retail, exhibition, theme park, hotel, restaurant and many more.  In the future, we see Massivit 3D expending to additional markets and additional applications such as machine covers, furniture, landscaping features and more. |
| 1. **Do the prints have outdoor durability?** | Outdoor durability can be achieved by applying coatings such as Polyuria on the printed object. |
| **Installations** | |
| 1. **Was the system already installed?** | First installation of the Massivit 1800 has been performed already in September 2015. The Massivit 1800 is now available for commercial sale. |
| 1. **How long it takes to install the Massivit 1800?** | The installation of the system and the training on the operation of it, takes a working week. Typically, the machine is operative already at the end of the second day of the installation and the reminder of the week is used for printing of trial models and training. |
| 1. **What does a site need to have for the installation of a Massivit 1800?** | Massivit 3D provides a detailed document with site requirements. Primarily it requires electoral connection, floor space and pass ways to bring in the system in the right dimensions, ventilation, storage space for the consumables and air pressure connection. Massivit also recommends (though it I not a must) that there will be a modeler or a graphic designer with some 3D printing experience, and potentially also a small 3D desktop type of printer on which the team can make trials and elevate their know how and performance with 3D printing. |

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| **Solution** | |
| 1. **What is the system configuration?** | The Massivit system includes the machine with all its necessary elements (with 2 dispensing & curing engines), front end software license and a pre-press software license. |
| 1. **How many types of printing materials do Massivit offer?** | At current initial launch Massivit only offers 1 type of Dimengel. In the future there will be additional versions of materials, some of which are already under development at our labs. |
| 1. **What is the breakeven point between Massivit system and current methods of making sculptures?** | It depends on a large number of factors .Massivit believes that its solution is beneficial for very small quantities. For making multiple copies of the same object, the Massivit print could serve as the master off which the mold can be made. |
| 1. **What finishing capabilities are designed to be needed for the Massivit prints? What finishing processes are compatible?** | Prints can be used in different ways and for various applications in some cases prints can used as they come of the system. In some cases prints may require painting or coating or both .We have evaluated a variety of finishing process including different coating materials applied in variety of manners and different paint. To dare all materials we have tested have worked nicely. Massivit will hold and share with its customers a list of materials that have been tested and found to be compatible .This list will be provided for recommendation only. |
| 1. **What is the volume of Dimengel in each pail?** | There are 19kg of Dimengel in each pail. There is currently a 12 pails minimum order quantity. |
| 1. **What is the Dimengel shelf life?** | As customary in the printing industry, the Dimengel shelf life is currently 6 months (provided off course that is handled with normal care and kept in the specified conditions). |
| **Operations** | |
| 1. **Where are the systems manufactured?** | The systems are manufactured in Israel. |
| 1. **Where is the Dimengel manufactured?** | The Dimengel is manufactured in Israel. |

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| 1. **Dimengel logistics - will you have local stock in the different global regions?** | Massivit will take all necessary measures to ensure customers all over the world will enjoy smooth delivery of Dimengel. If needed local stocks might become the way to provide this level of service. |
| 1. **How often will I need to replace Dimengel container? How would I know when to replace it?** | The system operating software or front end, is very user friendly and at the same time thorough tool. It indicates Dimengel status continuously and provides warnings ahead of time when it requires replenishing. |
| 1. **What is the difference between Massivit Dimengel and PLA filament materials? Other filaments? Other UV curing materials for 3D printers, such as Polyjet materials from Stratasys (Objet)?** | Massivit Dimengel is unique- it is a proprietary development.  It is not similar in its looks, or in its way of use in the GDP technology to any filament - PLA or other. It does cure by exposure to UV light and in this respect resembles to some other inks & materials that are used in printing and 3D printing. |
| **Legal** | |
| 1. **Which standards will the machine comply with?** | The machine will be CE approved. Massivit will offer, when necessary, the ability to get a local UL approval. |
| 1. **The printed objects – could they be recycled after printing?** | 3D printing is bringing a lot of environmental value to the world by saving in waste (no scrap) – as it is only uses material where needed to build the object and no carving or removal of materials from big blocks of materials. Massivit GDP technology has an additional value as it is printing primarily the outer shells of objects rather than solid objects. Accordingly with Massivit GDP technology material consumption is relatively low and saves n resources.  Regarding recycling in specific - At this stage, as far as we know, there is no solution for recycling the prints. The cured polymer would be categorized as ‘other’ (group 7) for recycling purposes. There are however, as far as we know, capabilities to ‘crash’ the printed output and there are different possible uses for the crashed materials. |

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| 1. **I have heard UV curing materials are hazardous – what about Massivit Dimengel?** | Massivit UV curing Dimengel are safe to handle and use as long as they are handled with care and according to instructions. The handling of the Dimengel in its raw condition requires the use of gloves & skin protection but nothing out of the ordinary for chemicals in the printing industry. The hazard rating of the Dimengel is ‘irritant’ which is at the lowest of hazard warnings. Once the Dimengel is fully cured it poses no risk at all like any other plastic. Disposal of leftovers of Dimengel needs to be handled as it cannot be disposed in regular drainage.  Massivit 3D provides MSDS as obliged by regulations as well as the right marking on the product, including warning if required in regards to shipping & handling.  During the operation of the system, there is a need to ensure proper ventilation from the machine in accordance with the site preparation requirements. |