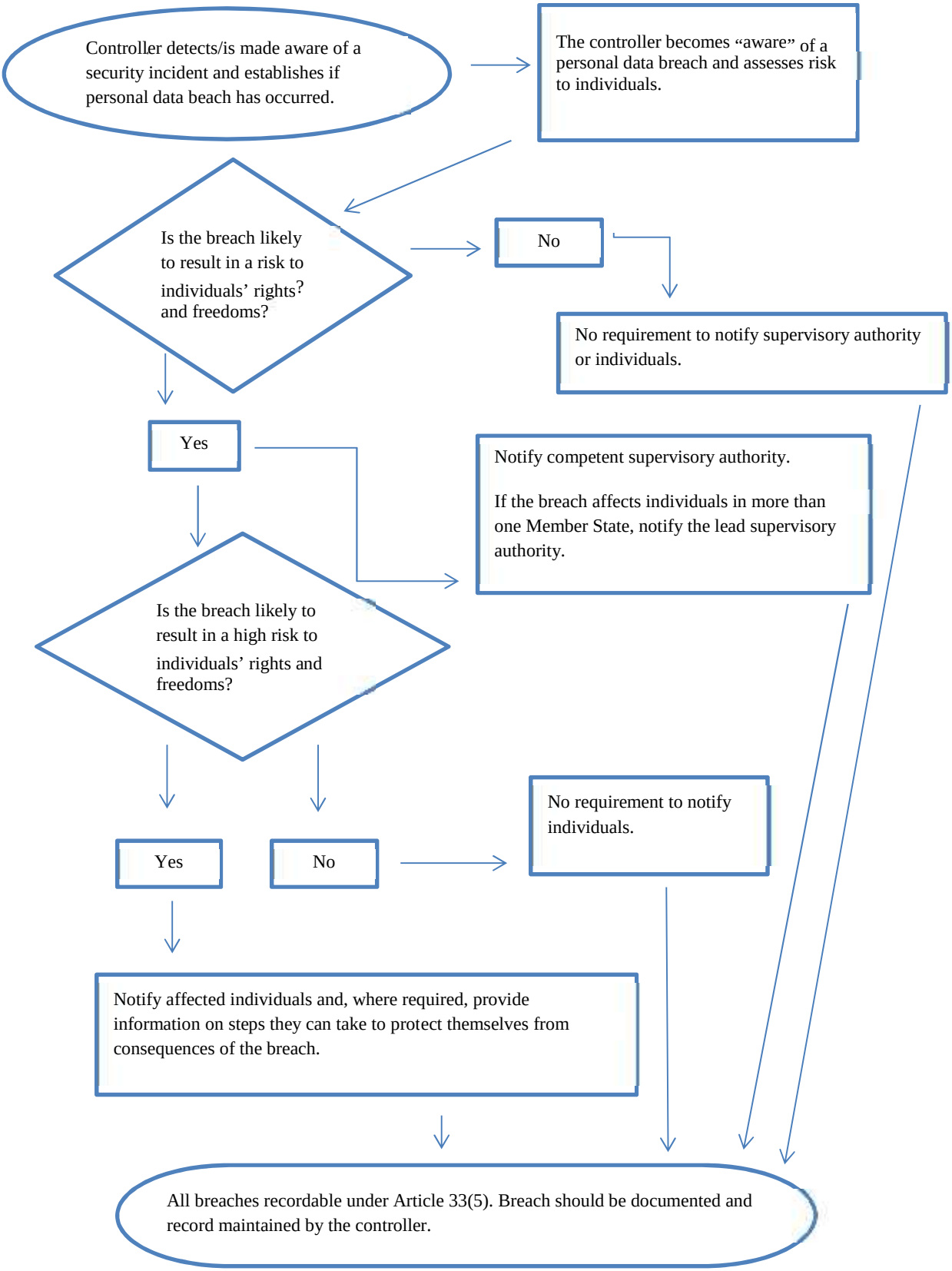
VII. ANNEX

A. Flowchart showing notification requirements



B. Examples of personal data breaches and who to notify

The following non-exhaustive examples will assist controllers in determining whether they need to notify in different personal data breach scenarios. These examples may also help to distinguish between risk and high risk to the rights and freedoms of individuals.

	Example	Notify the supervisory authority	Notify the data subject	Notes/recommendations
i	A controller stored a backup of an archive of personal data encrypted on a USB key. The key is stolen during a break-in.	No.	No.	As long as the data are encrypted with a state of the art algorithm, backups of the data exist the unique key is not compromised, and the data can be restored in good time, this may not be a reportable breach. However if it is later compromised, notification is required.
ii	A controller maintains an online service. As a result of a cyber attack on that service, personal data of individuals are exfiltrated. The controller has customers in a single Member State.	Yes, report to the supervisory authority if there are likely consequences to individuals.	Yes, report to individuals depending on the nature of the personal data affected and if the severity of the likely consequences to individuals is high.	
iii	A brief power outage lasting several minutes at a controller's call centre meaning customers are unable to call the controller and access their records.	No.	No.	This is not a notifiable breach, but still a recordable incident under Article 33(5). Appropriate records should be maintained by the controller.
iv	A controller suffers a ransomware attack which results in all data being encrypted. No back-ups are available and the data cannot be restored. On investigation, it becomes clear that the ransomware's only functionality	Yes, report to the supervisory authority, if there are likely consequences to individuals as this is a loss of availability.	Yes, report to individuals, depending on the nature of the personal data affected and the possible effect of the lack of availability of the data, as well as other likely consequences.	If there was a backup available and data could be restored in good time, this would not need to be reported to the supervisory authority or to individuals as there would have been no permanent loss of availability or confidentiality. However, if the supervisory authority became aware of the

	was to encrypt the data, and that there was no other malware present in the system.			incident by other means, it may consider an investigation to assess compliance with the broader security requirements of Article 32.
v	An individual phones a bank's call centre to report a data breach. The individual has received a monthly statement for someone else. The controller undertakes a short investigation (i.e. completed within 24 hours) and establishes with a reasonable confidence that a personal data breach has occurred and whether it has a systemic flaw that may mean other individuals are or might be affected.	Yes.	Only the individuals affected are notified if there is high risk and it is clear that others were not affected.	If, after further investigation, it is identified that more individuals are affected, an update to the supervisory authority must be made and the controller takes the additional step of notifying other individuals if there is high risk to them.
vi	A controller operates an online marketplace and has customers in multiple Member States. The marketplace suffers a cyber-attack and usernames, passwords and purchase history are published online by the attacker.	Yes, report to lead supervisory authority if involves cross-border processing.	Yes, as could lead to high risk.	The controller should take action, e.g. by forcing password resets of the affected accounts, as well as other steps to mitigate the risk. The controller should also consider any other notification obligations, e.g. under the NIS Directive as a digital service provider.
vii	A website hosting company acting as a data processor identifies an error in the code which controls user authorisation. The effect of the flaw means that any user	As the processor, the website hosting company must notify its affected clients (the controllers) without undue delay. Assuming that the website hosting	If there is likely no high risk to the individuals they do not need to be notified.	The website hosting company (processor) must consider any other notification obligations (e.g. under the NIS Directive as a digital service provider). If there is no evidence of this vulnerability being

	can access the account details of any other user	company has conducted its own investigation the affected controllers should be reasonably confident as to whether each has suffered a breach and therefore is likely to be considered as having "become aware" once they have been notified by the hosting company (the processor). The controller then must notify the supervisory authority		exploited with any of its controllers a notifiable breach may not have occurred but it is likely to be recordable or be a matter of non-compliance under Article 32.
viii	Medical records in a hospital are unavailable for the period of 30 hours due to a cyber-attack.	Yes, the hospital is obliged to notify as high-risk to patient's well-being and privacy may occur.	Yes, report to the affected individuals.	
ix	Personal data of a large number of students are mistakenly sent to the wrong mailing list with 1000+ recipients.	Yes, report to supervisory authority.	Yes, report to individuals depending on the scope and type of personal data involved and the severity of possible consequences.	
x	A direct marketing e-mail is sent to recipients in the "to:" or "cc:" fields, thereby enabling each recipient to see the email address of other recipients.	Yes, notifying the supervisory authority may be obligatory if a large number of individuals are affected, if sensitive data are revealed (e.g. a mailing list of a psychotherapist) or if other factors present high risks (e.g. the mail contains the initial passwords).	Yes, report to individuals depending on the scope and type of personal data involved and the severity of possible consequences.	Notification may not be necessary if no sensitive data is revealed and if only a minor number of email addresses are revealed.